



DACW41-02-R-0014

**US Army Corps  
of Engineers**

Kansas City District

*You Matter - We Care*

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# **Gate Modification/Repair and Painting at Perry Lake Perry, Kansas**

## **Request for Proposal**

**July 2002**

DEPARTMENT OF THE ARMY  
 Kansas City District, Corps of Engineers  
 757 Federal Building  
 Kansas City, Missouri 64106

SPECIFICATIONS FOR CONSTRUCTION OF  
 Gate Modification/Repair and Painting at Perry Lake  
 Perry, Kansas

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<b>SOLICITATION, OFFER, AND AWARD</b>  <b>(Construction, Alteration, or Repair)</b>		1. SOLICITATION NO.	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF	PAGES
		DACA41-00-R-0010	<input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	7/31/2002	1	
IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.						
4.		5. REQUISITION/PURCHASE REQUEST NO.		6. PROJECT NO.		
				47501 & 53439		
7. ISSUED BY		CODE	8. ADDRESS OFFER TO			
U.S. Army Engineer District, Kansas City 760 Federal Building, 601 E. 12th Street Kansas City, Missouri 64106-2896			See Item 7			
Tel: (816) 983-3802 Fax: (816) 426-5169						
9. FOR INFORMATION CALL:		A. NAME Pamela Wellons	B. TELEPHONE NO. (Include area code) 816-983-3802 Ext. (NO COLLECT CALLS)			

### SOLICITATION

NOTE: In sealed bid solicitation "offer" and "offeror" mean "bid" and "Bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date):

GATE MODIFICATION/REPAIR AND PAINTING AT PETTY LAKE  
PERRY, KANSAS

11. The Contractor shall begin performance within <u>10</u> calendar days and complete it within <u>360</u> calendar days after receiving <input type="checkbox"/> award <input checked="" type="checkbox"/> notice to proceed. This performance period is <input checked="" type="checkbox"/> mandatory, <input type="checkbox"/> negotiable. See Section 0080C )	
12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES", indicate within how many calendar days after award in Item 12B.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	12B. CALENDAR DAYS  10
13. ADDITIONAL SOLICITATION REQUIREMENTS:	
A. Sealed offers in original and <u>3</u> copies to perform the work required are due at the place specified in Item 8 by <u>10:30 a.m.</u> local time <u>9/1/2002</u> (date). If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due. *** See 00110	
B. An offer guarantee <input checked="" type="checkbox"/> is, <input type="checkbox"/> is not required. NOT TO EXCEED <u>20%</u> OF TOTAL BID AMOUNT	
C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.	
D. Offers providing less than <u>90</u> calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.	

00010-1

**OFFER** (Must be fully completed by offeror)

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)

15. TELEPHONE NO. (Include area code)

(FAX # )

16. REMITTANCE ADDRESS (Include only if different from Item 14)

DUNS NO:

CODE

FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within \_\_\_\_\_ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.

AMOUNTS:

See attached Proposal Schedule.

18. The offeror agrees to furnish any required performance and payment bonds.

## 19. ACKNOWLEDGEMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.

DATE

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER

(Type or print)

20B. SIGNATURE

20C. OFFER DATE

**AWARD** (To be completed by Government)

21. ITEMS ACCEPTED

22. AMOUNT

23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN ITEM  
(4 copies unless otherwise specified)

26. ADMINISTERED BY

CODE

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO

☐ 10 U.S.C. 2304(c) ( )☐ 41 U.S.C. 253(c) ( )

27. PAYMENT WILL BE MADE BY

## CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return \_\_\_\_\_ copies to issuing office.) Contractor agrees

to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED  
TO SIGN (Type of print)

30B. SIGNATURE

☐ 29. AWARD (Contractor is not required to sign this document) Your offer

on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

31A. NAME OF CONTRACTING OFFICER (Type or print)

31b. UNITED STATES OF AMERICA

31C. AWARD  
DATE

## Section 00010 - Solicitation Contract Form

BASE SCHEDULE

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	Sandblast, Inspect & Paint Gates				
ITEM NO 0001AA	SUPPLIES/SERVICES Sandblast Inspect & Paint Service Gate 1 See Section 02100, paragraph 1.1.1.a FFP	QUANTITY 1	UNIT Each	UNIT PRICE _____	AMOUNT
				NET AMT	_____
ITEM NO 0001AB	SUPPLIES/SERVICES Sandblast Inspect & Paint Service Gate 2 and Emergency Gates 1 and 2. See Section 02100, paragraph 1.1.1b and c. FFP	QUANTITY 3	UNIT Each	UNIT PRICE _____	AMOUNT
				NET AMT	_____
ITEM NO 0002	SUPPLIES/SERVICES Raw Material for Fabrication of Lower Gate Section FFP	QUANTITY 2	UNIT Each	UNIT PRICE _____	AMOUNT
				NET AMT	_____
ITEM NO 0003	SUPPLIES/SERVICES Fabricate and Install Lower Gate Sections for Service Gate #1 FFP	QUANTITY 1	UNIT Lump Sum	UNIT PRICE _____	AMOUNT
				NET AMT	_____
ITEM NO 0004	SUPPLIES/SERVICES Provide and Install Hydraulic Cylinder for Low Flow Gate (Service Gate #2) FFP	QUANTITY 1	UNIT Lump Sum	UNIT PRICE _____	AMOUNT
				NET AMT	_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005	Rebuild Hydraulic Cylinder for Service Gate	2	Each		
	FFP			NET AMT	
0006	Replace Half Coupling for Gage Stems	6	Each		
	FFP			NET AMT	
0007	Replace O-ring Seals in Upper Head on Hydraulic Cylinder for Emergency Gate	2	Each		
	FFP			NET AMT	
0008	Babbitt Repair for Gate Sill Plate	4	Each		
	FFP			NET AMT	
0009	Replace Air Valve	2	Each		
	FFP			NET AMT	
0010	Replace Anodes on Emergency Gates and Wheel Tracks	EST. QUANTITY 400	Linear Foot		
	FFP			NET AMT	
0011	Replace Packing, Seals, Gaskets & O-Rings	1	Lump Sum		
	FFP			NET AMT	

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012		40	Linear Foot	_____	

Replace Broken Grease Lines  
FFP

NET AMT \_\_\_\_\_

BASE SCHEDULE \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013					

OPTION 1 Raw Material for Fabrication of Lower Gate Section

FFP

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AA		1	Each	_____	

OPTION 1A:Raw Material for Fabrication of Lower Gate Section

FFP

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AB		1	Each	_____	

OPTION 1B:Raw Material for Fabrication of Lower Gate Section

FFP

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014					

OPTION 2 Fabricate and Install Lower Gate Section

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AA		1	Each	_____	

OPTION 2A: Fabricate and Install Lower Gate Section

FFP

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AB		1	Each		
	OPTION 2B: Fabricate and Install Lower Gate Section				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AC		1	Each		
	OPTION 2C: Fabricate and Install Lower Gate Section				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015		60	Cubic Inches		
OPTION 3	Weld Repair Structural Steel on Three Gates				
	FFP				

This line item not subject to FAR 52.211-18, Variation in Estimated Quantity

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0016		50	Cubic Inches		
OPTION 4	Weld Repair Cast Steel on Three Gates				
	FFP				

This line item not subject to FAR 52.211-18, Variation in Estimated Quantity

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017		20	Cubic Inches		
OPTION 5	Weld Repair Seal Surface on 2 Emergency Gates				
	FFP				

This line item not subject to FAR 52.211-18, Variation in Estimated Quantity

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018					
OPTION 6	Machine Seal Surface on Emergency Gate				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018AA		1	Each		
	OPTION 6A: Machine Seal Surface on Emergency Gate				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018AB		1	Each		
	OPTION 6B: Machine Seal Surface on Emergency Gate				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019					
OPTION 7	Replace Grease Distribution Boxes				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AA		1	Box		
	OPTION 7A: Replace Grease Distribution Boxes				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AB		1	Box		
	OPTION 7B: Replace Grease Distribution Boxes				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AC		1	Box	_____	
	OPTION 7C: Replace Grease Distribution Boxes				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AD		1	Box	_____	
	OPTION 7D: Replace Grease Distribution Boxes				
	FFP				

NET AMT \_\_\_\_\_

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AE		1	Box	_____	
	OPTION 7E: Replace Grease Distribution Boxes				
	FFP				

NET AMT \_\_\_\_\_

TOTAL OPTION  
SCHEDULE \_\_\_\_\_

TOTAL BASE AND  
OPTION SCHEDULE \_\_\_\_\_

#### NWK-00010-001 FIELD OFFICE OVERHEAD

NOTICE TO BIDDERS: For your bid to be responsive, you must declare below the single accounting practice that you apply to contracts to calculate field office overhead for all change orders, modifications and requests for equitable adjustment. Pursuant to Federal Acquisition Regulations (FAR) Parts 31.105(d)(3) and 31.203(d)(1), an accounting practice that varies from modification to modification is not allowable. Select one of the following:

1. TIME DISTRIBUTION BASE FOR A PER DIEM RATE

If you use this practice, see Special Clause "Field Office  
Overhead Per Diem Rate" \_\_\_\_\_

2. DIRECT COST DISTRIBUTION BASE FOR A PERCENTAGE MARKUP

If you use this practice, see Special Clause "Field Office  
Overhead Percentage Markup" \_\_\_\_\_

3. OTHER ACCOUNTING PRACTICE THAT IS ALLOWABLE \_\_\_\_\_

UNDER THE FAR AND THAT USES A SINGLE DISTRIBUTION BASE.

If you selection 3, you must describe the accounting practice in sufficient detail below to allow the contracting officer to determine what accounting practice is being utilized by your company and that it complies with the FAR.

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**FAILURE TO FULLY COMPLY WITH THE ABOVE REQUIREMENT OR, IF ALTERNATIVE 3 IS DECLARED AND YOUR DESCRIPTION DOES NOT CLEARLY STATE OR DESCRIBE A CONSISTENT ACCOUNTING PRACTICE USING A SINGLE DISTRIBUTION BASE, WILL BE CAUSE FOR YOUR BID TO BE REJECTED AS NON-RESPONSIVE.**

#### CLAUSES INCORPORATED BY FULL TEXT

#### NOTES:

- (1) Proposal prices must be entered for all items of the Proposal Schedule. Award will be made as a whole to one Contractor on the basis of price and other factors. Offeror's attention is directed to SECTION 00120 PROPOSAL EVALUATION AND CONTRACT AWARD for further details.
- (2) Any costs not associated with CLINs 0002 – 0019 should be included in CLIN 0001AA or 0001AB.
- (3) If a modification to an offer is submitted which provides for a lump sum adjustment to the total cost, the application of the lump sum adjustment to each price in the Proposal Schedule must be stated. If it is not stated, the offeror agrees that the lump sum adjustment shall be applied on a pro rata basis to every price in the Proposal Schedule.
- (4) Offeror's attention is directed to SECTION 00100 paragraph titled "Arithmetic Discrepancies" wherein are procedures for correction of errors.
- (5) Offeror's attention is directed to SECTION 01100: GENERAL for special provisions pertaining to this Solicitation.
- (6) Offeror's attention is directed to SECTION 01100, paragraph titled "Kansas Sales and Use Tax".
- (7) The general outline of the principal features of each item as listed does not in any way limit the responsibility of the offeror for making a thorough investigation of the drawings and specifications to determine the scope of work included in each item.
- (8) Offeror's attention is directed to the CONTRACT CLAUSES wherein the apparent successful offeror is required to submit a small business and small disadvantaged business subcontracting plan. The subcontracting plan shall be submitted in the format that appears at the end of SECTION 00600. Submission of the plan is required prior to award. Award will not be made under this solicitation before the Contracting Officer approves the plan.
- (9) Determination of the Offeror's total price for the proposed work will be based on the TOTAL of the BASE SCHEDULE and OPTION SCHEDULE. Immediate award will be made of the BASE SCHEDULE. At the option of the Government, the OPTION SCHEDULE may be awarded at the proposal price after Notice of Award for the BASE SCHEDULE work. The Government does not guarantee any work beyond that of the BASE SCHEDULE. The Government reserves the right to pick up

individual items on the OPTION SCHEDULE at the proposal price within the term of the contract (360 calendar days, after acknowledgement of the Notice to Proceed.) Offeror's attention is directed to SECTION 00100, paragraph titled "Evaluation of Options", for further details.

(10) Offeror's attention is directed to the CONTRACT CLAUSES, FAR 52.223-9, Certification and Estimate of Percentage of Recovered Material Content for EPA-Designated Items. Certification will be required upon contract completion unless the Contracting Officer has approved a waiver. The waiver must be approved prior to contract award.

(11) The Government will procure this facility through a Best value competitive acquisition in accordance with the provisions set forth in the Request for Proposal (RFP).

# ***CAUTION!***

BEFORE SIGNING AND MAILING THIS PROPOSAL, please take note of the following, as failure to perform any one of these actions may cause your offer to be rejected.

1. AMENDMENTS: Have you acknowledged receipt of ALL Amendments? If in doubt as to number of amendments issued, please contact our office.
2. SEALED PROPOSALS: Sealed envelopes containing proposals shall be marked to show the offeror's name and address, the solicitation number, amendments received, and the date and time proposals are due.
3. AMENDED PROPOSAL PAGES: If any of the Amendments furnished amended proposal pages, the amended proposal pages must be used in submitting your proposal.
4. LATE PROPOSALS: In order for a late mailed proposal to be considered, generally it must have been sent by either registered or certified mail not later than 5 calendar days before the receipt of proposals date.
5. PROPOSAL GUARANTEE: Sufficient proposal guarantee in proper form must be furnished with your proposal, if your proposal exceeds \$50,000.
6. MISTAKE IN PROPOSAL: Have you reviewed your proposal prices for possible errors in calculations or work left out?
7. TELEGRAPHIC MODIFICATIONS: If you modify your proposal by telegram, be sure to allow sufficient time for the telegram to reach us prior to the time set for receipt of proposals. Any doubt should be resolved in favor of allowing Extra Time.
8. FACSIMILE PROPOSALS OR MODIFICATIONS: Will not be considered. Facsimile withdrawals will be considered.
9. HAND-DELIVERED PROPOSAL: If proposals are hand-delivered, you must be aware of security requirements in effect in the Federal Building. No additional time will be allowed due to security requirements.
10. BUY AMERICAN ACT: All offerors are cautioned that, prior Government conduct notwithstanding, the Contractor's selection of a domestic construction material (as defined in SECTION 00700) which would require the subsequent selection of a foreign construction material for compatibility is not a justification for waiver of the Buy American Act. It is the Contractor's responsibility to verify, prior to submitting the materials for approval, that each system can be built to meet the contract specifications without the use of foreign construction materials.

## Section 00100 - Bidding Schedule/Instructions to Bidders

## CLAUSES INCORPORATED BY REFERENCE

52.204-6	Data Universal Numbering System (DUNS) Number	JUN 1999
52.214-34	Submission Of Offers In The English Language	APR 1991
52.214-35	Submission Of Offers In U.S. Currency	APR 1991
52.215-20	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data	OCT 1997
52.225-10	Notice of Buy American Act Requirement--Construction Materials	MAY 2002
52.232-28	Invitation to Propose Performance-Based Payments	MAR 2000

## CLAUSES INCORPORATED BY FULL TEXT

## 52.215-1 INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (MAY 2001)

(a) Definitions. As used in this provision--

“Discussions” are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer’s discretion, result in the offeror being allowed to revise its proposal.

“In writing or written” means any worded or numbered expression which can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

“Proposal modification” is a change made to a proposal before the solicitation’s closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

“Proposal revision” is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

“Time”, if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

(b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) Submission, modification, revision, and withdrawal of proposals. (1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show--

(i) The solicitation number;

(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) Submission, modification, or revision, of proposals.

(i) Offerors are responsible for submitting proposals, and any modifications, or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.

(ii)(A) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and--

(1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(3) It is the only proposal received.

(B) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(iii) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Offerors shall submit proposals in response to this solicitation in English, unless otherwise permitted by the solicitation, and in U.S. dollars, unless the provision at FAR 52.225-17, Evaluation of Foreign Currency Offers, is included in the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mis take at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall--

(1) Mark the title page with the following legend: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with-- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend: Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) Contract award. (1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

(2) The Government may reject any or all proposals if such action is in the Government's interest.

(3) The Government may waive informalities and minor irregularities in proposals received.

(4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

(5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.

(6) The Government reserves the right to make multiple awards if, after considering the additional administrative

costs, it is in the Government's best interest to do so.

(7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.

(8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

(10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.

(11) The Government may disclose the following information in postaward debriefings to other offerors:

- (i) The overall evaluated cost or price and technical rating of the successful offeror;
- (ii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection;
- (iii) A summary of the rationale for award; and
- (iv) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(End of provision)

#### 52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a firm fixed-price construction contract resulting from this solicitation.

(End of clause)

#### 52.217-5 EVALUATION OF OPTIONS (JUL 1990)

(a) Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(b) The Government may reject an offer as nonresponsive if it is materially unbalanced as to prices for the basic requirement and the option quantities. An offer is unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(End of provision)

#### 52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from U S Army Engineering District Kansas City, Attn: CENWK-CT-C/Points, 760 Federal Building, 601 E 12<sup>th</sup> Street, Kansas City, MO 64106.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

#### 52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors are urged and expected to inspect the site where the work will be performed.

(b) Due to the location of the site (under water) traditional site visits will not be available. However, information regarding the site and partial site visits may be obtained during normal duty hours by contacting:

Name: Frances Funk  
Address: Perry Lake Project Office  
Telephone: (785) 597-5144 x12

(End of clause)

#### 52.236-28 PREPARATION OF PROPOSALS--CONSTRUCTION (OCT 1997)

(a) Proposals must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a proposal must initial each erasure or change appearing on any proposal form.

(b) The proposal form may require offerors to submit proposed prices for one or more items on various bases, including--

(1) Lump sum price;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of paragraphs (b)(1) through (b)(3) of this provision.

(c) If the solicitation requires submission of a proposal on all items, failure to do so may result in the proposal being rejected without further consideration. If a proposal on all items is not required, offerors should insert the words "no proposal" in the space provided for any item on which no price is submitted.

(d) Alternate proposals will not be considered unless this solicitation authorizes their submission.

(End of provision)

#### 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/>

<http://www.acq.osd.mil/dp/dars/dfars/dfars/html>

(End of provision)

#### NWK-00100-001 FIELD OFFICE OVERHEAD PERCENTAGE MARKUP

If any change to the contract, issued pursuant to the changes Clause or otherwise, for which the Government is responsible, causes an increase or decrease in the Contractor's cost of, of the time required for, performance under the contract, the Contracting Officer shall make an equitable adjustment and modify the contract in writing.

Under such equitable adjustment, no per diem rate for field office overhead shall be allowed if the Contractor has elected a percentage markup in keeping with its standard accounting practices. In such a case, payment of field office overhead shall be allowed for any change on a percentage markup basis regardless of whether the completion of the contract is or is not extended by reason of the change, except for modifications issued pursuant to the Default Clause. The Contractor shall provide a detailed breakdown of its proposed increase or decrease of costs as required by Contract Clause DFARS 252.236-7001 MODIFICATION OF PROPOSALS – PRICE BREAKDOWN.

#### NWK-00100-002 FIELD OFFICE OVERHEAD PER DIEM RATE

If any change to the contract, issued pursuant to the Changes Clause or otherwise, for which the Government is responsible, causes an increase or decrease in the Contractor's cost of, or the time required for, performance under the contract, the Contracting Officer shall make an equitable adjustment and modify the contract in writing.

Under such equitable adjustment, no payment of field office overhead shall be allowed for any changes when the completion of the contract is not extended by reason of the change, except the Contractor may be reimbursed any variable expense it incurs due to the change, provided it can substantiate the variables. The Contractor shall be reimbursed for field office overhead on a per diem basis when the completion of the contract is extended by reason of the change issued under any clause except the Default clause. Equitable adjustment shall be made for the costs that are incurred or are to be incurred due to the change. The Contractor shall provide a detailed breakdown of its proposed increase or decrease of costs as required by Contract Clause DFARS 252.236-7001 MODIFICATION OF PROPOSALS – PRICE BREAKDOWN.

NWK-00100-003 BID BOND REQUIREMENTS (DEC 1989) (FAR 28.101-2)

If your bid exceed \$50,000.00, the bid bond shall be in the amount of 20% of the bid price of \$3,000,000, whichever is the lesser amount. (See CONTRACT CLAUSE titled "Bid Guarantee.")

NWK-00100-004 PLANS AND SPECIFICATIONS

Plans and specifications will be available only on CD-ROM, and will be free of charge. A street address must be provided when requesting a CD-ROM. Requests for the CD-ROM must be made via the Internet at <http://www.nwk.usace.army.mil/contract/contract.html>.

**SECTION 00110****SUBMISSION REQUIREMENTS AND INSTRUCTIONS****1. PROPOSALS**

Proposals for the work described herein, will be received until the date and time indicated on Standard Form 1442 in Section 00010, at the following address:

U.S. Army Engineer District, Kansas City  
 760 Federal Building  
 601 East 12th Street  
 ATTN: CENWK-CT-C/Wellons  
 Kansas City, Missouri 64106-2896

**2. PROPOSAL FORMAT**

- a. The proposals (originals) shall be no more than 30 pages total for volume 1, in the following format:

Proposal Document		Original	Copies
VOLUME 1, Part 1	- Corporate Experience	1	3
VOLUME 1, Part 2	- Shop Certifications	1	3
VOLUME 1, Part 3	- Past Performance	1	3
VOLUME 1, Part 4	- Key Personnel	1	3
VOLUME 2	- Price	1	1

The information required by paragraph: INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION, subparagraph (c)(2), shall be included in Volume 1, before Part 1.

- b. Proposal Characteristics.

(1) All text must be legible and easily read. The page size of the offeror's proposal shall not exceed 8-1/2 inch by 11 inch. Diagrams, charts and tables shall conform to the paper size. All text shall be typed single-spaced. Margins (1-inch) shall be clean and clear. If fold-out charts are unavoidable and are to be utilized, all sheets shall be reproduced on 11 inch by 17 inch, and folded to 8-1/2 inch by 11 inch sheet size with title clearly visible at bottom right corner. Volume 1 shall be contained within a 3-ring binder (no heat or spiral bound volumes). Volume 2 may be in separate 3-ring binders or stapled and provided in separate envelopes.

(2) All proposals shall contain the requirements stated herein and every volume shall be identified by the volume number and name, address, and telephone number of the prime on the cover sheet. Each volume shall also contain a Table of Contents, List of Tables, List of Figures, List of Appendices, List of Acronyms and at the bottom left side of each page the volume number shall be included. The list of acronyms should include all acronyms appearing in the volume. The offeror's name, address, signature, and telephone number shall appear on the cover of any document to be evaluated.

(3) Proposal clarity, organization (as requested in this solicitation) and cross referencing is mandatory. No material shall be incorporated by reference. General cross-references or cross referencing guides will not be considered as appropriate cross-references. In order for the proposal to receive an in-depth evaluation, it is

necessary that the proposal be presented in a manner that will provide clarity, organization and cross referencing as required.

(4) Each evaluation factor and subfactor in Volume 1 shall be described in a separate section, appropriately tabbed in a report form. The information in all volumes shall be concise. Elaborate presentations are not necessary or desirable.

(5) The offeror shall submit Section 00010 (including Standard Form 1442) of this solicitation with his prices. Offerors may be required to provide complete cost and pricing data and certification or information other than cost or pricing data at a later date if needed to adequately evaluate price proposals.

(6) Pages in excess of the page limitation will not be evaluated. The Tabs, Table of Contents, List of Tables, List of Figures, List of Appendices, and List of Acronyms do not count against the page limitation.

### 3. PROPOSAL CONTENT

a. The Government may award a contract based on initial proposals received, without discussion of such proposals, to the offeror providing the best value to the government as evaluated using applicable factors. Accordingly, each initial proposal should be submitted on the most favorable terms from a price and technical standpoint that the offeror can submit to the Government. However, the Government may request additional information from offerors of proposals, which clarifies, supplements and/or changes, any proposal as submitted.

b. Each offeror's ability to perform the work set forth in this solicitation will be evaluated on the basis of his knowledge and understanding of the work, the quality provided by his total proposal and his capability and responsibility to accomplish the project. The evaluation will be based on the offeror's proposals. The proposals shall present a comprehensive, straightforward analysis of the resources and expertise required to perform the work. While knowledge of the RFP requirements is a prerequisite to preparing proposals, restatement of the RFP requirements shall be avoided. Proposals shall emphasize knowledge and understanding of work performance, not work identification.

c. The following factors and subfactors will be used to evaluate each proposal.

FACTOR 1. Corporate Experience. Provide in detail the experience of your organization in contracts of similar type and complexity, including a list of contracts relevant to the proposed contract which your organization has completed within the last six years, or which is currently under contract and more than 50% complete. Provide the project name, a short description, the size, the owner's name and telephone number, the date of completion and the percentage of the project accomplished with your own forces. Information regarding the type and extent of work completed under the contract shall be included. For this factor, a project of similar type, size and complexity is considered to be:

1. Metal forming, shaping, cutting and/or fabrication of thick (1 ½" to 3") structural shapes,
2. Welding of thick structural members to a qualified welding procedure,
3. Inspection of welded steel structures by certified welding inspectors,
4. Repair of cast steel by welding including use of preheat and postheat treatment,
5. Precision machining (axle holes, seal bar, mitre joints) on large steel structures such as flood control gates or similar equipment,
6. Application of vinyl paint system on carbon and stainless steel,
7. Familiarity of or use of large cranes, rigging, handling, hauling components of similar size and weight.
8. Experience with operation and maintenance of hydraulic systems (1500 p.s.i.) for control of flood gates of the size and type for Perry Lake.

Corporate Experience Evaluation Considerations: Proposals that show experience in all eight areas listed may be rated more favorably.

**FACTOR 2. Shop Certifications.** Indicate the certifications that the contractor's shop(s) have, the date received and the issuing organization.

Shop Certification Evaluation Considerations: Proposals will receive a more favorable evaluation if their business has one or more of the following certifications (in order of preference):

1. American Institute of Steel Construction with fracture critical endorsement
2. American Institute of Steel Construction
3. American Society of Mechanical Engineers, Boiler and Pressure Vessel Code
4. American Welding Society, D1.1 Welding Code
5. ISO 9000 series of certifications

**FACTOR 3. Past Performance.** Past performance will be evaluated in the areas indicated in the subfactors shown. Past performance information may be obtained from other than the sources identified by the offeror, to include past performance evaluations in the Construction Contractors Appraisal Support System (CCASS).

Provide a Performance Evaluation for recent government or private contracts that have been completed or are currently on-going but the original completion date is past that were executed by the offeror as a prime contractor. The total number of questionnaires submitted should be 4. The Past Performance Evaluation Questionnaire along with a sample transmittal letter, are located at the end of this section and must be completed by personnel for whom the offeror has performed work. These Performance Evaluations must be provided by the offeror to persons who have knowledge of this information on past performance. Once completed, these evaluations must be sent directly to the address in paragraph: PROPOSALS, above, by the persons completing these evaluations. The offeror may also e-mail the questionnaires to the references for the past/current contract. References may then electronically complete the questionnaire and e-mail it to Pamela Wellons, Contract Specialist, Pamela.S.Wellons@nwk02.usace.army.mil. The Government must receive e-mailed or mailed questionnaires no later than the closing date of the RFP. Questionnaires received after the closing date of the RFP will be discarded and will not be evaluated.

The offeror shall not review the Performance Evaluations after they have been completed, and the persons completing these evaluations shall be informed that their names will be held confidential by the Government. At no time during the evaluation process, debriefings or after award, will the names of the individuals providing reference information about an offeror's past performance be revealed to the offeror or to any other party.

The Performance Evaluations should clearly identify the offeror's identity and the project or portion of a project being evaluated. It is helpful to give your evaluators a short synopsis of the project or portion of a project that you wish them to evaluate. It is also helpful to include an SASE or overnight delivery envelope addressed to the address found in paragraph: PROPOSALS, and inform the evaluators to forward the evaluation in a timely manner. It is the offeror's responsibility to ensure that evaluators have completed and forwarded the evaluation in a timely manner. Those Performance Evaluations not received in a timely manner will be discarded and will not be evaluated.

In addition, the offeror will provide the following information in the proposal, Volume 1, about these four projects:

- (a) Title, location and contract number.
- (b) Dates of contract execution (start and completion).
- (c) Contracting agency.
- (d) At least two current points of contact (names, current phone and fax numbers).

- (e) SF 294s, where available. If the project was done for a non-federal organization, information normally provided on a SF 294 shall be provided in letter format. This information includes the goals set and the actuals obtained for percentage of subcontractor dollars for small businesses, small disadvantaged businesses and women owned small businesses as well as the actual percentage achieved. This information should be provided in table format. If goals were not established, indicate the reason.
- (f) Brief description of the circumstances surrounding the following as they apply and any corrective action taken to preclude recurrence:
  - (i) Contract termination, in whole or in part.
  - (ii) Failure to complete awarded work.
  - (iii) Liquidated damages or actual damages assessed for delay in meeting completion dates.
- (g) Brief descriptions of the project to include size and location.

The following subfactors will be evaluated by the Government:

**Quality of Product and Services.** Reviews how well the offeror has complied with contract requirements in the past and conformance with standards of good workmanship.

**Customer Satisfaction.** Reviews how satisfied prior customers and end users are with the offeror's completed work. Includes the willingness of prior customers to do business with the offeror again if given the choice.

**Timeliness of Performance.** Reviews how well the contractor has adhered to contract schedules.

**Extent of subcontracting to small businesses, small disadvantaged businesses, and women-owned businesses.** Reviews how well the contractor has met the goals established for subcontracting to small businesses, small disadvantaged businesses and women-owned small business.

**FACTOR 4. Key Personnel.** The following positions are considered vital for work in this contract. The offeror should submit the names and resumes for key construction personnel that will be assigned to this project. In addition, the offeror will provide a summary of the duties and responsibilities of these individuals, clearly indicating the separate duties and responsibilities for each of the individuals. At a minimum, this factor should include data on the following personnel:

1. Project Manager
2. Shop Foreman
3. Lead Field (erection) Engineer or Foreman
4. Certified Welder(s)
5. Head or Lead Painter

Resumes should be submitted in the following format:

Name/Title  
 Proposed Duties/Functions/Responsibilities  
 Firm Affiliation/Years Affiliated  
 Years of Experience (performing proposed duties and functions)  
 Education: Degree/Year/Specialization  
 Active Registrations and/or Professional/Technical Certifications/Licenses  
 Specific Qualifications

List of Relevant Projects including: Title/Description/Type (Design/Build, Construction, etc.)/Dollar Value/Year Complete/Duties/Function

Key Personnel Evaluation Considerations: Key personnel with at least five years experience working in their current capacity with similar projects may be rated more favorably.

FACTOR 5. Price. Offerors shall submit the Proposal Schedule, as found in Section 00010. The Proposal Schedule will be evaluated in accordance with paragraphs: BASIS FOR AWARD, EVALUATION FACTORS, and PRICE listed below.

d. ADDITIONAL INFORMATION TO BE PROVIDED IN VOLUME 2:

- The Offer (the SF1442) duly executed with an original signature by an official authorized to bind the company.
- Acknowledgement of all amendments to the solicitation in accordance with the instructions on the Standard Form 30 (amendment form).
- The completed Section 00600 of the solicitation (Representations and Certifications).
- For joint ventures, the information required by paragraph "Joint Ventures."

#### JOINT VENTURES

Joint ventures shall submit the following additional documentation regarding their business entities:

- A certified copy of their Joint Venture agreement.
- A detailed statement outlining the following in terms of percentages, where appropriate.
- The relationship of the joint venture parties in terms of business ownership, capital contribution, and profit distribution or loss sharing.
- The management approach of the joint venture in terms of who will conduct, direct, supervise and control the project and have custody and control of the assets of the joint venture and perform the duties necessary to complete the work.
- The structure of the joint venture and decision-making responsibilities of the joint venture parties in terms of who will control the manner and method of performance of the work.
- The bonding responsibilities of the joint venture parties.
- Identification of the key personnel having authority to legally bind the joint venture to subcontracts and state who will provide or contract for the labor and materials for the joint venture.
- Identification of party maintaining the joint venture bank accounts for the payment of all expenses and the deposits of all receipts, keep the books and records, and pay applicable taxes for the joint venture.
- Identification of party furnishing the facilities, such as office supplies and telephone service.
- Identification of party having overall control of the joint venture.

Other sections of the proposal shall identify, where appropriate, whether key personnel are employees of the individual joint venture parties and identify the party, or hired as employees of the joint venture.

If one of the joint venture parties possesses experience and/or past performance as a Federal Government contractor or as a Corps of Engineers contractor, that experience and/or past performance will be included as the experience and/or past performance of the joint venture.

SAMPLE TRANSMITTAL LETTER  
AND  
PAST PERFORMANCE EVALUATION QUESTIONNAIRE

Date: \_\_\_\_\_

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

We have listed your firm as a reference for work we have performed for you as listed below. Our firm will be submitting a proposal under a project advertised by the U.S. Army Corps of Engineers, Kansas City District. In accordance with Federal Acquisition Regulations (FAR), an evaluation of our firm's past performance will be completed by the Corps of Engineers. Your candid response to the attached questionnaire will assist the evaluation team in this process.

We understand that you have a busy schedule and your participation in this evaluation is greatly appreciated. Please complete the enclosed questionnaire as thoroughly as possible. Space is provided for comments. Understand that while the responses to this questionnaire may be released to the offeror, FAR 15.306 (e)(4) prohibits the release of the names of the persons providing the responses. Complete confidentiality will be maintained. Furthermore, a questionnaire has also been sent to \_\_\_\_\_ of your organization. Only one response from each office is required. If at all possible, we suggest that you individually answer this questionnaire and then coordinate your responses with that of \_\_\_\_\_, to forge a consensus on one overall response from your organization.

Please send your completed questionnaire to the following address:

U.S. Army Engineer District, Kansas City  
ATTN: CENWK-CT-C/Pamela Wellons  
757 Federal Building  
601 East 12<sup>th</sup> Street  
Kansas City, Missouri 64016-2896

The questionnaires can also be faxed to 816-426-5169 or e-mailed to Pamela.S.Wellons@usace.army.mil.

If you have questions regarding the attached questionnaire, or require assistance, please contact Ms. Wellons at (816) 983-3802. Thank you for your assistance.

## PAST PERFORMANCE EVALUATION QUESTIONNAIRE

Upon completion of this form, please send directly to the U.S. Army Corps of Engineers in the enclosed addressed envelope, fax to 816-426-5169, ATTN: Pam Wellons, or e-mail to Pamela.S.Wellons@usace.army.mil. Do not return this form to the contractor's offices. Thank you.

1. Contractor/Name & Address (City and State):

2. Type of Contractor: \_\_\_\_ Construction \_\_\_\_ Design \_\_\_\_ Design Build

3. Type of Contract: Fixed Price \_\_\_\_\_ Cost Reimbursement \_\_\_\_\_  
Other (Specify) \_\_\_\_\_

4. Title of Project/Contract Number: \_\_\_\_\_  
\_\_\_\_\_

5. Description of Work: (Attach additional pages as necessary)

6. Complexity of Work: High \_\_\_\_\_ Mid \_\_\_\_\_ Routine \_\_\_\_\_

7. Location of Work: \_\_\_\_\_

8. Date of Award: \_\_\_\_\_

9. Status: Active \_\_\_\_\_ (provide percent complete)  
Complete \_\_\_\_\_ (provide completion date)

10. Name, address and telephone number of Contracting Officer's Technical Representative:

11. Name, Title, Address and Telephone Number of Individual completing survey:

12. Date Questionnaire Completed: \_\_\_\_\_

**Please note:** Adverse remarks will be provided to contractors in the competitive range for award for response in accordance with Federal Acquisition Regulation requirements. The contracting office will not however, provide your name or copies of this questionnaire to the contractor or any other party not directly involved in the evaluation of the contractor's proposal. Your response to this questionnaire must be received in the contracting office no later than the closing date of the RFP. Questionnaires received after this date will be discarded and will not be evaluated. The evaluation team, if they so choose, may call you for clarification or additional information.

Please answer each of the following questions. **If the rating is other than average or satisfactory please provide additional information in the remarks section.**

**QUALITY OF PRODUCT/SERVICE:**

1. Evaluate the contractor's performance in complying with contract requirements, quality achieved and overall technical expertise demonstrated.

Excellent Quality	Above Average Quality	Average Quality	Below Average Quality	Unsuccessful or Experienced Significant Quality Problems

Remarks:

2. To what extent were the contractor's reports and documentation accurate, complete and submitted in a timely manner?

Excellent Quality	Above Average Quality	Average Quality	Below Average Quality	Unsuccessful or Experienced Significant Quality Problems

Remarks:

3. To what extent was the contractor able to solve contract performance problems without extensive guidance from government/owner counterparts?

Excellent	Above Average	Average	Below Average	Unsuccessful

Remarks:

4. How well did the contractor manage and coordinate subcontractors, suppliers, and the labor force?

Excellent	Above Average	Average	Below Average	Unsuccessful

Remarks:

#### **CUSTOMER SATISFACTION:**

5. To what extent were the end users satisfied with:

	Quality?	Cost?	Schedule?
Exceptionally satisfied			
Highly satisfied			
Satisfied			
Somewhat Dissatisfied			
Highly dissatisfied			

Remarks:

6. If given the opportunity, would you work with this contractor again?

Yes \_\_\_\_\_

No \_\_\_\_\_

Not Sure \_\_\_\_\_

Remarks:

#### **TIMELINESS OF PERFORMANCE:**

7. To what extent did the contractor meet the contract schedule?

Completed substantially ahead of schedule	
Completed work on schedule with no time delays	
Completed work on schedule, with minor delays under extenuating circumstances	
Experienced significant delays without justification	

Remarks:

8. If work was not completed on schedule, were Liquidated Damages, or other similar penalties assessed?

\_\_\_\_\_ Yes                      \_\_\_\_\_ No

Remarks:

9. If work was completed ahead of schedule, were incentives paid to the contractor?

\_\_\_\_\_ Yes                      \_\_\_\_\_ No

Remarks:

**SUBCONTRACTING TO SMALL BUSINESSES**

10. Did the contractor partner or have a mentor/protégée relationship with SB/SDB/WOSB as part of this contract?

Yes \_\_\_\_\_ No \_\_\_\_\_ Mentor/Protégée Not Allowed \_\_\_\_\_

Remarks:

**OTHER REMARKS:**

11. Use the space below to provide other information related to the contractor's performance. This may include the contractor's selection and management of subcontractors, effectiveness of their small/small disadvantaged business subcontracting plan, flexibility in dealing with contract challenges, their overall concern for the Government's interest (if applicable), project awards received, etc.

## SECTION 00120

**PROPOSAL EVALUATION AND CONTRACT AWARD****1. INFORMAL SOURCE SELECTION PROCESS**

All offers received in response to this solicitation will be evaluated in accordance with informal source selection procedures. The principal objective of this process is to select responsible offerors to be the overall Best Value to the Government, price and other factors considered (the Best Value). The Government reserves the right to consider and evaluate information regarding past performance from sources outside the proposal. The right is reserved to accept other than the lowest price offers and to reject any or all offers. Award may be made to the superior proposals, regardless of cost or price, provided that price is determined to be reasonable. The process is designed to ensure the impartial, equitable, and comprehensive evaluation of all technically acceptable, responsible proposals received in response to this particular solicitation.

**Source Selection Organization.**

The source selection organization is established as a separate organization and management chain of command whose only purpose is to accomplish the objective above. The organization consists of a Source Selection Authority (SSA) and a Source Selection Evaluation Board (SSEB). The SSEB is comprised of separate Technical Evaluation and Price Evaluation teams. The organization is designed to ensure active ongoing involvement of appropriate contracting, technical, logistics, legal, price analysis, small business, and other functional staff management expertise.

**Source Selection Procedure.**

The source selection procedures will begin with an initial review of proposals and continue with a technical and price evaluation conducted by the SSEB. The SSEB shall evaluate the proposals based solely on the evaluation criteria identified in paragraph: Evaluation Factors, below. The results of the SSEB evaluations will be presented to the SSA, who will rank the proposals based on the Best Value to the Government, price and other factors considered. The SSA will either make the final source selection decision or determine whether it is appropriate to engage in clarifications or communication prior to establishment of a competitive range, or to establish a competitive range and conduct discussions with those offerors that are included in the competitive range. The Government intends to award without discussions. All communications leading to establishment of the competitive range will be conducted in accordance with FAR Part 15.306b.

If a competitive range is established, discussions will be conducted with offerors who are included in the competitive range. After conclusion of discussions and receipt of final revised technical proposals, the SSEB will complete the evaluation and establish final ratings. Results of the final technical ratings will be presented to the SSA. The SSA shall then rank the proposals based on the Best Value to the Government, price and other factors considered. The SSA will then make the final source selection decision. If appropriate, the SSA will apply the tradeoff process in the Best Value Continuum.

The proposals received in response to this RFP will be evaluated utilizing a rating system to select the most advantageous proposal. To be considered acceptable, each offeror shall specifically address each of the evaluation factors listed below. Sufficient detail shall be provided, citing specific data as may be required, such that the proposal may be adequately evaluated. The proposal must show clearly that the offeror has an understanding of the work tasks required and has the capability and responsibility to accomplish the project.

The Government is not responsible for information overlooked during the evaluation that is not located in the appropriate proposal section. To ensure that evaluation credit is appropriately received for proposal material

submitted, do not incorporate by reference documents not contained in the proposal. References to other sections of the proposal shall be by specific paragraph number (and name, if applicable), page number and section.

## 2. BASIS FOR AWARD

The Government intends to select, without discussions, those responsible offerors whose proposals conform to the solicitation and are determined to be the Best Value to the Government in accordance with the following relationship between price and technical merit. The technical evaluation factors, when combined, are considered of more importance to price (see paragraphs below: Relative Weight of Technical Evaluation Criteria; and Price). The closer the total evaluated technical scores of acceptable proposals are to one another, the greater will be the importance of price in making the selection determination. The closer the final price evaluations are to one another, the greater will be the importance of the total evaluated technical scores in making the selection determination.

## 4. EVALUATION FACTORS

Evaluation factors are listed below. All factors will be evaluated on the completeness, conciseness, and relevance of information provided. These factors are listed in the order of importance described in paragraph: Relative Weight of Technical Evaluation Criteria, with price being of less importance to all technical factors combined.

FACTOR 1 (Volume 1, Part 1) – Corporate Experience

FACTOR 2 (Volume 1, Part 2) – Shop Certifications

FACTOR 3 (Volume 1, Part 3) – Past Performance

- a. Quality of product and service.
- b. Customer satisfaction.
- c. Timeliness of performance.
- d. Extent of subcontracting to small businesses, small disadvantaged businesses, and women-owned businesses.

FACTOR 4 (Volume 1, Part 4) – Key Personnel

FACTOR 5 (Volume 2) – Price

## 5. RELATIVE WEIGHT OF TECHNICAL EVALUATION CRITERIA

Factor 1 is the most important technical factor and is significantly more important than Factors 2, 3 or 4.

Factors 2, 3 and 4 are equal in value. Within Factor 3, subfactors a, b and c are equal and d is less important than either a, b, or c.

Factor 5 is significantly less important than Factors 1, 2, 3 and 4 combined.

## 6. PRICE

- a. Price will not be point-scored, but will be subjectively evaluated. The specific evaluation process is described below. The technical evaluation factors, when combined, are significantly more important than price. The closer the total evaluated technical scores of acceptable offers are to one another, the greater will be the importance of price in making the selection determination. The closer the final price evaluations are to one another, the greater will be the importance of the total evaluated technical scores in making the selection determination.

b. The Price Proposal Schedule (Volume 3) submitted in response to this solicitation will not be point scored but will be subjectively evaluated for reasonableness over the life of the contract. In the event, during the course of the analysis, the Price Evaluation Team has reason to question the reasonableness of a price proposal, or has reason to believe there is unbalancing in the price proposal, the PET may conduct such additional reasonable analysis as it requires in order to complete a thorough price analysis. Because the evaluation of the price proposal will represent a portion of the total evaluation, it is possible that an offeror might not be selected because of an unbalanced or an unreasonable price proposal.

c. The evaluated price information will be reported to the SSA. The SSA will utilize the technical ratings and the price evaluations in preparing its overall ranking of the proposals and as to the Best Value determination for selection of successful offerors.

## 7. PAST PERFORMANCE

In the course of evaluating offerors' proposals, the Source Selection Evaluation Board may contact references submitted by the offeror. The SSEB may also check past performance information obtained from sources other than those identified by the offeror. All gathered information will be used to evaluate the offeror's overall past performance.

Sheer numbers of confirmed negative comments may not give the offeror an overall rating of less than satisfactory. Negative comments in areas that are not of vital importance to the successful performance of this contract may not result in a rating of less than satisfactory. Conversely, one or only a few negative confirmed comments in areas of vital importance to the successful performance of this contract may render an overall past performance rating less than satisfactory.

During the evaluation, the following will also be taken into consideration: the age and relevance of past performance information; the offeror's overall work record; if there are any problems identified, the number, type, and severity of the problems and the effectiveness of corrective actions taken.

At no time during this process, nor during the debriefing, nor after award, will the names of the individuals providing reference information about an offeror's past performance be revealed to the offerors or to any other party. Offerors may be afforded the opportunity to respond to adverse comments made by references in accordance with guidelines identified in FAR Part 15.3. In this case, comments will be extracted and provided to the offeror. Copies of the questionnaires will not be furnished to the offeror and will remain confidential.

During the ranking process the SSA may also consider past performance information in evaluating overall risk associated with a particular proposer.

## 8. DEBRIEFING

In accordance with FAR 15.505 Preaward Debriefing of Offerors, and FAR 15.506 Postaward Debriefing of Offerors, the offeror should be aware of the following.

### PREAWARD DEBRIEFING OF OFFERORS (FAR 15.505)

Offerors excluded from the competitive range or otherwise excluded from the competition before award may request a debriefing before award (10 U.S.C. 2305(b)(6)(A) and 41 U.S.C. 253b(f)-(h)).

(a)(1) The offeror may request a preaward debriefing by submitting a written request for debriefing to the Contracting Officer within 3 days after receipt of the notice of exclusion from the competition.

(2) At the offeror's request, this debriefing may be delayed until after award. If the debriefing is delayed until after award, it shall include all information normally provided in a postaward debriefing (see 15.506(d)). Debriefings delayed pursuant to this paragraph could affect the timeliness of any protest filed subsequent to the debriefing.

(3) If the offeror does not submit a timely request, the offeror need not be given either a preaward or a postaward debriefing. Offerors are entitled to no more than one debriefing for each proposal.

(b) The Contracting Officer shall make every effort to debrief the unsuccessful offeror as soon as practicable, but may refuse the request for a debriefing if, for compelling reasons, it is not in the best interests of the Government to conduct a debriefing at that time. The rationale for delaying the debriefing shall be documented in the contract file. If the Contracting Officer delays the debriefing, it shall be provided no later than the time postaward debriefings are provided under 15.506. In that event, the Contracting Officer shall include the information at 15.506(d) in the debriefing.

(c) Debriefings may be done orally, in writing, or by any other method acceptable to the Contracting Officer.

The Contracting Officer should normally chair any debriefing session held. Individuals who conducted the evaluations shall provide support.

At minimum, preaward debriefings shall include--

- (1) The agency's evaluation of significant elements in the offeror's proposal;
- (2) A summary of the rationale for eliminating the offeror from the competition; and
- (3) Reasonable responses to relevant questions about whether source selection procedures contained in the solicitation, applicable regulations, and other applicable authorities were followed in the process of eliminating the offeror from the competition.

Preaward debriefings shall not disclose--

The number of offerors;

The identity of other offerors;

The content of other offerors' proposals;

The ranking of other offerors;

The evaluation of other offerors; or

Any of the information prohibited in 15.506(e).

An official summary of the debriefing shall be included in the contract file.

#### POSTAWARD DEBRIEFING OF OFFERORS FAR 15.506

(a)(1) An offeror, upon its written request received by the agency within 3 days after the date on which that offeror has received notification of contract award in accordance with 15.503(b), shall be debriefed and furnished the basis for the selection decision and contract award.

(2) To the maximum extent practicable, the debriefing should occur within 5 days after receipt of the written request. Offerors that requested a postaward debriefing in lieu of a preaward debriefing, or whose debriefing was delayed for compelling reasons beyond contract award, also should be debriefed within this time period.

(3) An offeror that was notified of exclusion from the competition (see 15.505(a)), but failed to submit a timely request, is not entitled to a debriefing.

(4)(i) Untimely debriefing requests may be accommodated.

(ii) Government accommodation of a request for delayed debriefing pursuant to 15.505(a)(2), or any untimely debriefing request, does not automatically extend the deadlines for filing protests. Debriefings delayed pursuant to 15.505(a)(2) could affect the timeliness of any protest filed subsequent to the debriefing.

(b) Debriefings of successful and unsuccessful offerors may be done orally, in writing, or by any other method acceptable to the Contracting Officer.

(c) The Contracting Officer should normally chair any debriefing session held. (Individuals who conducted the evaluations shall provide support.)

At a minimum, the debriefing information shall include--

- (1) The Government's evaluation of the significant weaknesses or deficiencies in the offeror's proposal, if applicable;
- (2) The overall evaluated price (including unit prices), and technical rating, if applicable, of the successful offeror and the debriefed offeror, and past performance information on the debriefed offeror;
- (3) The overall ranking of all offerors, when any ranking was developed by the agency during the source selection;
- (4) A summary of the rationale for award;
- (5) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror; and
- (6) Reasonable responses to relevant questions about whether source selection procedures contained in the solicitation, applicable regulations, and other applicable authorities were followed.

(e) The debriefing shall not include point-by-point comparisons of the debriefed offeror's proposal with those of other offerors. Moreover, the debriefing shall not reveal any information prohibited from disclosure by 24.202 or exempt from release under the Freedom of Information Act (5 U.S.C. 552) including--

- (1) Trade secrets;

Privileged or confidential manufacturing processes and techniques;

(3) Commercial and financial information that is privileged or confidential, including cost breakdowns, profit, indirect cost rates, and similar information; and

(4) The names of individuals providing reference information about an offeror's past performance.

(f) An official summary of the debriefing shall be included in the contract file.

## Section 00600 - Representations &amp; Certifications

## CLAUSES INCORPORATED BY FULL TEXT

## 52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

3. The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to --

(1) Those prices,

(i) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision \_\_\_\_\_ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

## 52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

4. Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

#### 52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)

(a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(End of provision)

#### 52.215-6 PLACE OF PERFORMANCE (OCT 1997)

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, ( ) intends, ( ) does not intend (check applicable block) to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks "intends" in paragraph (a) of this provision, it shall insert in the following

spaces the required information:

Place of performance (street address, city, state, county, zip code)	Name and address of owner and operator of the plant or facility if other than offeror or respondent
.....	.....
.....	.....

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (APR 2002) - ALTERNATE I (APR 2002)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is ( ) (insert NAICS code).

(2) The small business size standard is ( ) (insert size standard).

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) [Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern

or concerns that are participating in the joint venture:\_\_\_\_\_.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:

\_\_\_\_\_ Black American.

\_\_\_\_\_ Hispanic American.

\_\_\_\_\_ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

\_\_\_\_\_ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

\_\_\_\_\_ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

\_\_\_\_\_ Individual/concern, other than one of the preceding.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) That is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; or

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

#### 52.219-22 SMALL DISADVANTAGED BUSINESS STATUS (OCT 1999)

(a) General. This provision is used to assess an offeror's small disadvantaged business status for the purpose of obtaining a benefit on this solicitation. Status as a small business and status as a small disadvantaged business for general statistical purposes is covered by the provision at FAR 52.219-1, Small Business Program Representation.

(b) Representations.

(1) General. The offeror represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either--

\_\_\_ (i) It has received certification by the Small Business Administration as a small disadvantaged business concern consistent with 13 CFR 124, Subpart B; and

(A) No material change in disadvantaged ownership and control has occurred since its certification;

(B) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(C) It is identified, on the date of this representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO0Net); or

\_\_\_ (ii) It has submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(2)\_\_\_ For Joint Ventures. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements at 13 CFR 124.1002(f) and that the representation in paragraph (b)(1) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: \_\_\_\_\_.]

(c) Penalties and Remedies. Anyone who misrepresents any aspects of the disadvantaged status of a concern for the purposes of securing a contract or subcontract shall:

- (1) Be punished by imposition of a fine, imprisonment, or both;
- (2) Be subject to administrative remedies, including suspension and debarment; and
- (3) Be ineligible for participation in programs conducted under the authority of the Small Business Act.

(End of provision)

#### 52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

- (a) ( ) It has, ( ) has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;
- (b) ( ) It has, ( ) has not, filed all required compliance reports; and
- (c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

#### 52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons:  
(Check each block that is applicable.)

( ) (i) The facility does not manufacture, process or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

( ) (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

( ) (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

( ) (iv) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

( ) (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(End of clause)

#### 52.226-2 HISTORICALLY BLACK COLLEGE OR UNIVERSITY AND MINORITY INSTITUTION REPRESENTATION (MAY 2001)

(a) Definitions. As used in this provision--

Historically black college or university means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense, the National Aeronautics and Space Administration, and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institution means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1067k, including a Hispanic-serving institution of higher education, as defined in Section 316(b)(1) of the Act (20 U.S.C. 1101a)).

(b) Representation. The offeror represents that it--

( ) is ( ) is not a historically black college or university;

( ) is ( ) is not a minority institution.

(End of provision)

#### 52.230-1 COST ACCOUNTING STANDARDS NOTICES AND CERTIFICATION (JUN 2000)

Note: This notice does not apply to small businesses or foreign governments. This notice is in three parts, identified by Roman numerals I through III.

Offerors shall examine each part and provide the requested information in order to determine Cost Accounting Standards (CAS) requirements applicable to any resultant contract.

If the offeror is an educational institution, Part II does not apply unless the contemplated contract will be subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c)(5) or 9903.201-2(c)(6), respectively.

#### I. DISCLOSURE STATEMENT--COST ACCOUNTING PRACTICES AND CERTIFICATION

(a) Any contract in excess of \$500,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR Chapter 99), except for those contracts which are exempt as specified in 48 CFR 9903.201-1.

(b) Any offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of 48 CFR Chapter 99 must, as a condition of contracting, submit a Disclosure Statement as required by 48 CFR 9903.202. When required, the Disclosure Statement must be submitted as a part of the offeror's proposal under this solicitation unless the offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal. If an applicable Disclosure Statement has already been submitted, the offeror may satisfy the requirement for submission by providing the information requested in paragraph (c) of Part I of this provision.

CAUTION: In the absence of specific regulations or agreement, a practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed-to practice for pricing proposals or accumulating and reporting contract performance cost data.

(c) Check the appropriate box below:

☐ (1) Certificate of Concurrent Submission of Disclosure Statement.

The offeror hereby certifies that, as a part of the offer, copies of the Disclosure Statement have been submitted as follows: (i) original and one copy to the cognizant Administrative Contracting Officer (ACO) or cognizant Federal agency official authorized to act in that capacity (Federal official), as applicable, and (ii) one copy to the cognizant Federal auditor.

(Disclosure must be on Form No. CASB DS-1 or CASB DS-2, as applicable. Forms may be obtained from the cognizant ACO or Federal official and/or from the loose-leaf version of the Federal Acquisition Regulation.)

Date of Disclosure Statement: \_\_\_\_\_ Name and Address of Cognizant ACO or Federal Official  
Where Filed: \_\_\_\_\_

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement.

☐ (2) Certificate of Previously Submitted Disclosure Statement.

The offeror hereby certifies that the required Disclosure Statement was filed as follows:

Date of Disclosure Statement: \_\_\_\_\_ Name and Address of Cognizant ACO or Federal  
Official Where Filed: \_\_\_\_\_

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the applicable Disclosure Statement.

☐ (3) Certificate of Monetary Exemption.

The offeror hereby certifies that the offeror, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated prime contracts and subcontracts subject to CAS totaling more than \$50 million (of which at least one award exceeded \$1 million) in the cost accounting period immediately preceding the period in which this proposal was submitted. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

☐ (4) Certificate of Interim Exemption.

The offeror hereby certifies that (i) the offeror first exceeded the monetary exemption for disclosure, as defined in (3) of this subsection, in the cost accounting period immediately preceding the period in which this offer was submitted and (ii) in accordance with 48 CFR 9903.202-1, the offeror is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the offeror will immediately submit a revised certificate to the Contracting Officer, in the form specified under subparagraph (c)(1) or (c)(2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

CAUTION: Offerors currently required to disclose because they were awarded a CAS-covered prime contract or subcontract of \$50 million or more in the current cost accounting period may not claim this exemption (4). Further, the exemption applies only in connection with proposals submitted before expiration of the 90-day period following the cost accounting period in which the monetary exemption was exceeded.

## II. COST ACCOUNTING STANDARDS--ELIGIBILITY FOR MODIFIED CONTRACT COVERAGE

If the offeror is eligible to use the modified provisions of 48 CFR 9903.201-2(b) and elects to do so, the offeror shall indicate by checking the box below. Checking the box below shall mean that the resultant contract is subject to the Disclosure and Consistency of Cost Accounting Practices clause in lieu of the Cost Accounting Standards clause.

( ) The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 48 CFR 9903.201-2(b) and certifies that the offeror is eligible for use of the Disclosure and Consistency of Cost Accounting Practices clause because during the cost accounting period immediately preceding the period in which this proposal was submitted, the offeror received less than \$50 million in awards of CAS-covered prime contracts and subcontracts. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

CAUTION: An offeror may not claim the above eligibility for modified contract coverage if this proposal is expected to result in the award of a CAS-covered contract of \$50 million or more or if, during its current cost accounting period, the offeror has been awarded a single CAS-covered prime contract or subcontract of \$25 million or more.

## III. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS

The offeror shall indicate below whether award of the contemplated contract would, in accordance with subparagraph (a)(3) of the Cost Accounting Standards clause, require a change in established cost accounting practices affecting existing contracts and subcontracts.

( ) YES ( ) NO

(End of clause)

## 252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export

Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclose such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

#### 252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

\_\_\_\_ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

\_\_\_\_ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

## Section 00700 - Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE

52.202-1 Alt I	Definitions (Dec 2001) --Alternate I	MAY 2001
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 1997
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	JUL 1995
52.211-18	Variation in Estimated Quantity	APR 1984
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-11	Price Reduction for Defective Cost or Pricing Data--Modifications	OCT 1997
52.215-13	Subcontractor Cost or Pricing Data--Modifications	OCT 1997
52.215-21	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data--Modifications	OCT 1997
52.216-7 Alt I	Allowable Cost and Payment (Feb 2002) - Alternate I	FEB 1997
52.219-8	Utilization of Small Business Concerns	OCT 2000
52.219-14	Limitations On Subcontracting	DEC 1996
52.219-23	Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns	MAY 2001
52.222-3	Convict Labor	AUG 1996
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	SEP 2000
52.222-6	Davis Bacon Act	FEB 1995
52.222-7	Withholding of Funds	FEB 1988
52.222-8	Payrolls and Basic Records	FEB 1988
52.222-9	Apprentices and Trainees	FEB 1988
52.222-10	Compliance with Copeland Act Requirements	FEB 1988
52.222-11	Subcontracts (Labor Standards)	FEB 1988
52.222-12	Contract Termination-Debarment	FEB 1988
52.222-13	Compliance with Davis -Bacon and Related Act Regulations.	FEB 1988
52.222-14	Disputes Concerning Labor Standards	FEB 1988
52.222-15	Certification of Eligibility	FEB 1988
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	APR 2002
52.222-27	Affirmative Action Compliance Requirements for Construction	FEB 1999
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans	DEC 2001
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era and Other Eligible Veterans	DEC 2001
52.223-6	Drug Free Workplace	MAY 2001
52.223-14	Toxic Chemical Release Reporting	OCT 2000

52.225-13	Restrictions on Certain Foreign Purchases	JUL 2000
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1	Authorization and Consent	JUL 1995
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	AUG 1996
52.227-4	Patent Indemnity-Construction Contracts	APR 1984
52.228-11	Pledges Of Assets	FEB 1992
52.228-14	Irrevocable Letter of Credit	DEC 1999
52.229-3	Federal, State And Local Taxes	JAN 1991
52.229-5	Taxes--Contracts Performed In U S Possessions Or Puerto Rico	APR 1984
52.230-2	Cost Accounting Standards	APR 1998
52.232-5	Payments under Fixed-Price Construction Contracts	MAY 1997
52.232-17	Interest	JUN 1996
52.232-23 Alt I	Assignment of Claims (Jan 1986) - Alternate I	APR 1984
52.232-25	Prompt Payment	FEB 2002
52.232-27	Prompt Payment for Construction Contracts	FEB 2002
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	MAY 1999
52.233-1	Disputes	DEC 1998
52.233-3	Protest After Award	AUG 1996
52.236-2	Differing Site Conditions	APR 1984
52.236-10	Operations and Storage Areas	APR 1984
52.236-11	Use and Possession Prior to Completion	APR 1984
52.236-12	Cleaning Up	APR 1984
52.236-15	Schedules for Construction Contracts	APR 1984
52.236-17	Layout of Work	APR 1984
52.242-13	Bankruptcy	JUL 1995
52.242-14	Suspension of Work	APR 1984
52.243-4	Changes	AUG 1987
52.244-5	Competition In Subcontracting	DEC 1996
52.244-6	Subcontracts for Commercial Items	MAY 2002
52.245-4	Government-Furnished Property (Short Form)	APR 1984
52.246-12	Inspection of Construction	AUG 1996
52.247-34	F.O.B. Destination	NOV 1991
52.247-55	F.O.B. Point For Delivery Of Government-Furnished Property	APR 1984
52.248-3	Value Engineering-Construction	FEB 2000
52.249-2 Alt I	Termination for Convenience of the Government (Fixed-Price) (Sep 1996) - Alternate I	SEP 1996
52.249-10	Default (Fixed-Price Construction)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	MAR 1999
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004	Required Central Contractor Registration	NOV 2001
252.205-7000	Provisions Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7000	Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate Range Nuclear Forces (INF) Treaty	NOV 1995
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	MAR 1998

252.215-7000	Pricing Adjustments	DEC 1991
252.225-7012	Preference For Certain Domestic Commodities	APR 2002
252.225-7031	Secondary Arab Boycott Of Israel	JUN 1992
252.227-7033	Rights in Shop Drawings	APR 1966
252.236-7000	Modification Proposals -Price Breakdown	DEC 1991
252.236-7001	Contract Drawings, Maps, and Specifications	AUG 2000
252.236-7006	Cost Limitation	JAN 1997
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.244-7000	Subcontracts for Commercial Items and Commercial Components (DoD Contracts)	MAR 2000
252.246-7000	Material Inspection And Receiving Report	DEC 1991
252.247-7023	Transportation of Supplies by Sea	MAY 2002
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000

#### CLAUSES INCORPORATED BY FULL TEXT

52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 1999)

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except-

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

\_\_\_ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

#### 52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
9.0%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the

length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and
- (5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is  
 [Contracting Officer shall insert description of the geographical areas where the contract is to be performed, giving the State, county, and city].

(End of provision)

#### 52.225-9 BUY AMERICAN ACT—CONSTRUCTION MATERIALS (MAY 2002)

(a) Definitions. As used in this clause--

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

- (1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or
- (2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

Domestic construction material means--

- (1) An unmanufactured construction material mined or produced in the United States; or
- (2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

United States means the 50 States and the District of Columbia, U.S. territories and possessions, Puerto Rico, the Northern Mariana Islands, and any other place subject to U.S. jurisdiction, but does not include leased bases.

(b) Domestic preference. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:  
none

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) \1\
<hr/>			
Item 1			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....
Item 2			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....
<hr/>			

Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).

List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.

Include other applicable supporting information.

(End of clause)

52.228-1 BID GUARANTEE (SEP 1996)

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

(c) The amount of the bid guarantee shall be 20 percent of the bid price or \$3,000,000 whichever is less.

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

#### 52.232-5002 CONTINUING CONTRACTS (ALTERNATE) (MAR 1995) — EFARS

(a) Funds are not available at the inception of this contract to cover the entire contract price. The sum of \$\_\_\_\_\_ has been reserved for this contract and is available for payment to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds, together with funds provided by one or more non-federal project sponsors will be reserved for this contract. The liability of the United States for payments beyond the funds reserved for this contract is contingent on the reservation of additional funds.

(b) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not be considered a breach of this contract, and shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (e) and (h) below.

(c) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(d) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under this contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(e) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. If and when sufficient additional funds are reserved, the contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of this contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(f) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under a "Suspension of Work" or similar clause or in any other manner under this contract.

(g) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(h) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be at no cost to the Government, except that, to the extent that additional funds to make payment therefore are allocated to this contract, it may be treated as a termination for the convenience of the Government.

(i) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under this contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(j) The term "Reservation" means monies that have been set aside and made available for payments under this contract.

(End of clause)

#### 52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

(End of clause)

52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(End of clause)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

(End of clause)

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

52.236-13 ACCIDENT PREVENTION (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

5. The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(End of clause)

#### 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997) - ALTERNATE I (APR 1984)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of

the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor. Upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted.

(End of clause)

#### 52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

(End of clause)

#### 52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

## 52.249-5000 BASIS FOR SETTLEMENT OF PROPOSALS

Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:

(1) Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.

(2) If equipment costs have been allocated to a contract using predetermined rates, those charges will be adjusted to actual costs.

(3) Recorded job costs adjusted for unallowable expenses will be used to determine equipment operating expenses.

(4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).

(5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate.

(End of Clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/>

<http://www.acq.osd.mil/dp/dars/dfars/dfars.html>

(End of clause)

## Section 00800 - Special Contract Requirements

## CLAUSES INCORPORATED BY FULL TEXT

## 52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 360 calendar days from contractor's acknowledgement of notice to proceed. The time stated for completion shall include final cleanup of the premises.

(End of clause)

## 52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of \$180.00 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.231-5000 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE  
MAR 1995)--EFARS

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of Proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region V. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data,

or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(End of clause)

52.232-5000 PAYMENT FOR MATERIALS DELIVERED OFF-SITE (MAR 1995)--EFARS

(a) Pursuant to FAR clause 52.232-5, Payments Under Fixed Priced Construction Contracts, materials delivered to the contractor at locations other than the site of the work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the General Provisions are fulfilled. Payment for items delivered to locations other than the work site will be limited to: (1) materials required by the technical provisions; or (3) materials that have been fabricated to the point where they are identifiable to an item of work required under this contract.

(b) Such payment will be made only after receipt of paid or receipted invoices or invoices with canceled check showing title to the items in the prime contractor and including the value of material and labor incorporated into the item. In addition to petroleum products, payment for materials delivered off-site is limited to the following items:  
none

(End of clause)

SECTION 00810

WAGE RATES

1. General Decision KS020006, dated 06/14/02 , 4 mods.

GENERAL DECISION KS020006 06/14/02 KS6  
General Decision Number KS020006

Superseded General Decision No. KS010006

State: Kansas

Construction Type:  
HEAVY  
HIGHWAY

County(ies):  
DOUGLAS                      LEAVENWORTH                      SHAWNEE

HEAVY CONSTRUCTION PROJECTS  
HIGHWAY CONSTRUCTION PROJECTS (Excluding Jefferson County)

Modification Number	Publication Date
0	03/01/2002
1	03/29/2002
2	04/05/2002
3	05/10/2002
4	06/14/2002

COUNTY(ies):  
DOUGLAS                      LEAVENWORTH                      SHAWNEE

CARP0007R    04/01/2001		
	Rates	Fringes
LEAVENWORTH COUNTY		
CARPENTERS AND PILEDRIVERMEN	25.50	6.88
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CARP1445B    04/01/2001		
	Rates	Fringes
JEFFERSON AND SHAWNEE COUNTIES		
CARPENTERS	17.20	4.35
PILEDRIVERS	17.575	4.35
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CARP2279C    04/01/2001		
	Rates	Fringes
DOUGLAS COUNTY		
CARPENTERS	17.20	4.35
PILEDRIVERS	17.575	4.35
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ELEC0053E    09/01/2000		
	Rates	Fringes
LEAVENWORTH COUNTY (North of Fairmont, Stranger, and Tonganoxie Townships)		
LINE CONSTRUCTION:		
LINEMEN	27.80	28.75%+2.20

LINEMEN OPERATOR	25.97	28.75%+2.20
GROUNDMEN POWDERMEN	19.45	28.75%+2.20
GROUNDMEN	18.49	28.75%+2.20
RAILROAD AND CROSS COUNTRY TRANSMISSION LINES:		
LINEMAN	24.98	28.75%+2.20
LINEMAN OPERATOR	23.10	28.75%+2.20
GROUNDMAN POWDERMAN	17.25	28.75%+2.20
GROUNDMAN	16.11	28.75%+2.20
POLE TREATING SPECIALIST	26.60	28.75%+2.20
POLE TREATING TRUCK DRIVER	17.25	28.75%+2.20
POLE TREATING GROUNDMAN	16.11	28.75%+2.20

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ELEC0124D 08/27/2001

	Rates	Fringes
LEAVENWORTH COUNTY (Delaware, High Prairie and Kickapoo Townships, City of Leavenworth and Ft. Leavenworth Military Reservation)		
ELECTRICIANS	28.78	10% + 9.00

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ELEC0226B 03/01/2001

	Rates	Fringes
DOUGLAS, JEFFERSON, SHAWNEE, and the remainder of LEAVENWORTH COUNTY		
ELECTRICIANS	23.60	3% + 5.08

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ELEC0304B 07/01/1998

	Rates	Fringes
LEAVENWORTH COUNTY (Except that portion north of Fairmont, Stranger, and Tonganoxie Townships) and DOUGLAS, JEFFERSON, SHAWNEE COUNTIES		
LINE CONSTRUCTION:		
LINEMEN	22.76	23.75%+2.00
CABLE SPLICERS	23.90	23.75%+2.00
GROUNDMEN	13.63	23.75%+2.00
POWDERMEN	18.71	23.75%+2.00
LINE TRUCK AND EQUIPMENT OPERATORS	18.71	23.75%+2.00
TRAFFIC SIGNAL TECHNICIAN	22.76	23.75%+2.00

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\* ENGI0101C 04/01/2002

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
DOUGLAS COUNTIES:		

GROUP 1	17.80	6.87
GROUP 2	17.55	6.87
GROUP 3	17.30	6.87
GROUP 4	16.95	6.87
GROUP 4A	17.20	6.87

GROUP 1: Asphalt paver and spreader, Backhoe, Boring machine, Blades, all types, Clamshell, Concrete mixer paver operator, Concrete plant operator (automatic); Crane, Truck crane, Pitman crane, Hydro crane or any machine with power swing, Derrick or derrick trucks; Dragline operator, Dredge operator, Dozer, Ditching machine, Euclid loader, Hoist, 2 active drums, Loader, all types, Mechanic or welder, Mixermobile, Multi-unit scraper, Piledriver operator, Power shovel operator, Quad track, Scoop operator, all types, Sideboom cat, Cheery picker, Skimmer scoop operator, Push cat operators.

GROUP 2: Asphalt plant operator, Elevating grader operator.

GROUP 3: A-frame truck, Asphalt roller operator, Asphalt plant boiler fireman, Backfiller operator, Barber green loader, Boiler, other than asphalt, Bull float operator, Churn drill operator, Compressor operator (1), Concrete central plant operator, Concrete mixer operator, skip, Concrete pump operator, Crusher operator, Distributor operator, Finish machine operator, concrete, Fireman, other than asphalt, Flex plane operator, Fork lift, Form grader operator, Greaser, Hoist, 1 drum, Jeep ditching machine, Pavement Breaker, self-propelled (of the hydra hammer or similar type), pump operator, 4" or over, two, pump operator, other than Dredge screening and wash plant operator, Small machine operator, Spreader box operator, self-propelled, Tractor operator, over 50 h.p., Self-propelled roller operator, other than asphalt siphons and jets, Subgrading machine operator, Tank car heater operator, Combination booster and boilers, Towboat operator, Vibrating machine operator, not hand.

GROUP 4: Concrete gang saw, Self-propelled (con-cut), Conveyor operator, Harrow, disc. seeder, Oiler, Tractor operator, 50 h.p. or less without attachments.

GROUP 4A: Oiler, Motor crane.

HOURLY PREMIUMS: Following classifications shall receive (\$.25) above Group I rate: Clamshells - 3 yd. capacity or over, Crane or rigs, 80 ft. of boom or over (including jib), Draglines, 3 yd. capacity or over, Piledrivers 80 ft of boom or over (including jib), Shovels and backhoes, 3 yd. capacity or over.

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ENGI0101F 04/01/2002		
	Rates	Fringes
LEAVENWORTH COUNTY		
POWER EQUIPMENT OPERATORS:		
ALL OTHER WORK		
GROUP 1	23.79	8.97

GROUP 2	22.75	8.97
GROUP 3		
OILERS	18.28	8.97
OILERS DRIVER (ALL TYPES)	21.63	8.97

#### POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1 - Asphalt roller operator, finish, asphalt paver and spreader, asphalt plant operator, concrete plant operator, la tourneau roter (all tiller types), concrete mixer paver, slip form paver operator (CMI, Rex, Gomeco or equal), finishing machine operator, auto grader or trimmer or sub-grader, side discharge spreader, concrete pump operator, backhoe, blade operator (all types), bulldozer operator, high loader - fork lift - skid loader (all types), quad track, scraper operator (all types), push cat, ditching machine, boilers-2, booster pump on dredge, dredge engineman, dredge operator, tow boat operator, hoisting engineer (2 active drums), crane operator, derrick or

derrick trucks, drag line operator, pile driver operator, pitman crane or boom truck (all types), shovel operator, truck crane, clamshell operator, drilling or boring machine (rotary - self propelled), boring machine (truck or crane mounted), skimmer scoop operator, mucking machine operator, sideboom cats, locomotive operator (standard gage), drillcat with compressor mounted (self-contained) or similar type self propelled rotary drill (not air tract), mechanics and welders (field and plants)

GROUP 2 - A-Frame truck operator, articulated dump truck, hoisting engine (one drum), roller operator (wtih or without blades), boilers (1), distributor operator, fireman gig, tank car heater operator (combination boiler and booster), chip spreader, back filler operator, farm tractor (all attachments), multiple compactor, concrete mixer operator, skip loader, elevating grader operator, pavement breaker, self propelled hydra-hammer (or similar type), power shield, churn drill operator, concrete saws (self propelled), conveyor operator, float operator, form grader operator, screening and washing plant, siphons and jets, vibrating machine operator (not hand held), crusher operator, conveyor operator, paymill operator, maintenance operator, welding machine, compressor, pumps, self-propelled street broom or sweeper, stump cutting machine, straw blower

#### HOURLY PREMIUMS

FOLLOWING CLASSIFICATIONS SHALL RECEIVE (\$.25) ABOVE GROUP I RATE: Clamshells - 3 yd. capacity or over - crane or rigs 80 ft. of boom or over (including jib) - draglines, 3 yd. capacity or over - piledrivers 80 ft. of boom or over (including jib) - shovels & backhoes, 3 yd. capacity or over.

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ENGI0101G 04/01/1999

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		

JEFFERSON COUNTY:

GROUP 1	15.40	5.67
GROUP 2	15.15	5.67
GROUP 3	14.90	5.67
GROUP 4	14.55	5.67
GROUP 4A	14.80	5.67

GROUP 1: Asphalt paver and spreader, Backhoe, Boring machine, Blades, all types, Clamshell, Concrete mixer paver operator, Concrete plant operator (automatic); Crane, Truck crane, Pitman crane, Hydro crane or any machine with power swing, Derrick or derrick trucks; Dragline operator, Dredge operator, Dozer, Ditching machine, Euclid loader, Hoist, 2 active drums, Loader, all types, Mechanic or welder, Mixermobile, Multi-unit scraper, Piledriver operator, Power shovel operator, Quad track, Scoop operator, all types, Sideboom cat, Cheery picker, Skimmer scoop operator, Push cat operators.

GROUP 2: Asphalt plant operator, Elevating grader operator.

GROUP 3: A-frame truck, Asphalt roller operator, Asphalt plant boiler fireman, Backfiller operator, Barber green loader, Boiler, other than asphalt, Bull float operator, Churn drill operator, Compressor operator (1), Concrete central plant operator, Concrete mixer operator, skip, Concrete pump operator, Crusher operator, Distributor operator, Finish machine operator, concrete, Fireman, other than asphalt, Flex plane operator, Fork lift, Form grader operator, Greaser, Hoist, 1 drum, Jeep ditching machine, Pavement Breaker, self-propelled (of the hydra hammer or similar type), pump operator, 4" or over, two, pump operator, other than Dredge screening and wash plant operator, Small machine operator, Spreader box operator, self-propelled, Tractor operator, over 50 h.p., Self-propelled roller operator, other than asphalt siphons and jets, Subgrading machine operator, Tank car heater operator, Combination booster and boilers, Towboat operator, Vibrating machine operator, not hand.

GROUP 4: Concrete gang saw, Self-propelled (con-cut), Conveyor operator, Harrow, disc. seeder, Oiler, Tractor operator, 50 h.p. or less without attachments.

GROUP 4A: Oiler, Motor crane.

HOURLY PREMIUMS: Following classifications shall receive (\$.25) above Group I rate: Clamshells - 3 yd. capacity or over, Crane or rigs, 80 ft. of boom or over (including jib), Draglines, 3 yd. capacity or over, Piledrivers 80 ft of boom or over (including jib), Shovels and backhoes, 3 yd. capacity or over.

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\* ENGI9101A 04/01/2002

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		

SHAWNEE COUNTIES:

GROUP 1	17.10	6.87
GROUP 2	16.85	6.87

GROUP 3	16.60	6.87
GROUP 4	16.25	6.87
GROUP 4A	16.50	6.87

GROUP 1: Asphalt paver and spreader, Backhoe, Boring machine, Blades, all types, Clamshell, Concrete mixer paver operator, Concrete plant operator (automatic); Crane, Truck crane, Pitman crane, Hydro crane or any machine with power swing, Derrick or derrick trucks; Dragline operator, Dredge operator, Dozer, Ditching machine, Euclid loader, Hoist, 2 active drums, Loader, all types, Mechanic or welder, Mixermobile, Multi-unit scraper, Piledriver operator, Power shovel operator, Quad track, Scoop operator, all types, Sideboom cat, Cheery picker, Skimmer scoop operator, Push cat operators.

GROUP 2: Asphalt plant operator, Elevating grader operator.

GROUP 3: A-frame truck, Asphalt roller operator, Asphalt plant boiler fireman, Backfiller operator, Barber green loader, Boiler, other than asphalt, Bull float operator, Churn drill operator, Compressor operator (1), Concrete central plant operator, Concrete mixer operator, skip, Concrete pump operator, Crusher operator, Distributor operator, Finish machine operator, concrete, Fireman, other than asphalt, Flex plane operator, Fork lift, Form grader operator, Greaser, Hoist, 1 drum, Jeep ditching machine, Pavement Breaker, self-propelled (of the hydra hammer or similar type), pump operator, 4" or over, two, pump operator, other than Dredge screening and wash plant operator, Small machine operator, Spreader box operator, self-propelled, Tractor operator, over 50 h.p., Self-propelled roller operator, other than asphalt siphons and jets, Subgrading machine operator, Tank car heater operator, Combination booster and boilers, Towboat operator, Vibrating machine operator, not hand.

GROUP 4: Concrete gang saw, Self-propelled (con-cut), Conveyor operator, Harrow, disc. seeder, Oiler, Tractor operator, 50 h.p. or less without attachments.

GROUP 4A: Oiler, Motor crane.

HOURLY PREMIUMS: Following classifications shall receive (\$.25) above Group I rate: Clamshells - 3 yd. capacity or over, Crane or rigs, 80 ft. of boom or over (including jib), Draglines, 3 yd. capacity or over, Piledrivers 80 ft of boom or over (including jib), Shovels and backhoes, 3 yd. capacity or over.

IRON0010B 04/01/2001		
	Rates	Fringes
IRONWORKERS:		
LEAVENWORTH COUNTY	22.70	11.63

IRON0010E 04/01/2001		
	Rates	Fringes
IRONWORKERS:		

DOUGLAS, JEFFERSON, AND  
SHAWNEE COUNTIES

19.70

11.63

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LABO0142B 04/01/2001

Rates

Fringes

LABORERS

JEFFERSON COUNTY

GROUP 1

11.80

4.15

GROUP 2

12.05

4.15

DOUGLAS AND SHAWNEE COUNTIES

GROUP 1

12.20

4.15

GROUP 2

12.45

4.15

GROUP 1: Board mat weavers & cable tiers, georgia buggy (manually operated), mixerman-no skip lift, salamander tenders, track men, tractor swamper, truck dumper, wire mesh setter, water pump up to 4 inches, and all other general laborers including flagman.

GROUP 2: Air tool operators, cement handlers (bulk), chain saw, georgia buggy (mechanically operated), grademan, hot mastic kettleman, crusher feeder, joint man, jute man, mason tender, material batch hopper and scale man, mixer man, pier hole man (working 11 feet deep), pipelayer - drainage (concrete and/or corrugated metal), signal man (crane), truck dumper - dry batch, vibrator operator, wagon and churn drill operator, asphalt raker, barco tamper, concrete saw, creosote material - handling and applying, nozzle burner (cutting torch and burning bar), conduit pipe, water and gas distribution lines, tile and duct line setter, form setter and liner on concrete paving, powderman, sandblasting and gunite nozzleman, sanitary sewer pipe layer, steel plate structure erectors, screed man.

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LABO1290I 02/01/1997

Rates

Fringes

DOUGLAS AND SHAWNEE COUNTIES

ASBESTOS AND HAZARDOUS MATERIAL  
ABATEMENT WORKERS (Preparation,  
removal and encapsulation of  
hazardous materials from non-  
mechanical systems)

10.40

3.80

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LABO1290L 02/01/1997

Rates

Fringes

LEAVENWORTH COUNTY

ASBESTOS AND HAZARDOUS MATERIAL  
ABATEMENT WORKERS (Preparation,  
removal and encapsulation of

hazardous materials from non-mechanical systems)	11.40	4.15
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LABO1290N 02/01/1997		
	Rates	Fringes
JEFFERSON COUNTY		
ASBESTOS AND HAZARDOUS MATERIAL ABATEMENT WORKERS (Preparation, removal and encapsulation of hazardous materials from non-mechanical systems)		
	10.00	3.80

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LABO1290W 04/01/2002		
	Rates	Fringes
LABORERS		
LEAVENWORTH COUNTY		
GROUP 1	16.05	7.24
GROUP 2	17.14	7.24

GROUP 1: Board mat weavers & cable tiers, georgia buggy (manually operated), mixerman-no skip lift, salamander tenders, track men, tractor swamper, truck dumper, wire mesh setter, water pump up to 4 inches, and all other general laborers including flagman.

GROUP 2: Air tool operators, cement handlers (bulk), chain saw, georgia buggy (mechanically operated), grademan, hot mastic kettleman, crusher feeder, joint man, jute man, mason tender, material batch hopper and scale man, mixer man, pier hole man (working 11 feet deep), pipelayer - drainage (concrete and/or corrugated metal), signal man (crane), truck dumper - dry batch, vibrator operator, wagon and churn drill operator, asphalt raker, barco tamper, concrete saw, creosote material - handling and applying, nozzle burner (cutting torch and burning bar), conduit pipe, water and gas distribution lines, tile and duct line setter, form setter and liner on concrete paving, powderman, sandblasting and gunite nozzleman, sanitary sewer pipe layer, steel plate structure erectors, screed man.

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PLAS0044C 04/01/1997		
	Rates	Fringes
CEMENT MASONS:		
DOUGLAS & SHAWNEE COUNTIES	14.25	2.95
JEFFERSON COUNTY	13.65	2.95

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PLAS0518C 04/01/2001		
	Rates	Fringes
LEAVENWORTH COUNTY:		

CEMENT MASONS	20.40	8.15
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PLUM0165D 06/01/2001		
	Rates	Fringes
JEFFERSON AND SHAWNEE COUNTIES		

PLUMBERS	24.24	7.35
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PLUM0533D 12/01/1999		
	Rates	Fringes
LEAVENWORTH COUNTY		

PIPEFITTERS	26.38	9.53
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PLUM0763C 08/01/2001		
	Rates	Fringes
DOUGLAS COUNTY		

PLUMBERS AND PIPEFITTERS:

Industrial and Commercial Projects	24.63	6.80
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Light Commercial Projects: (heating, cooling and plumbing on construction projects bid for \$50,000 or less, but does not include industrial, hospitals, colleges, and university projects)	21.19	6.80
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TEAM0541F 04/01/2000		
	Rates	Fringes
LEAVENWORTH COUNTY:		
GROUP 1	21.66	6.50
GROUP 2	21.17	6.50
GROUP 3	20.69	6.50

#### TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Mechanics and welders, A-frame low boy - boom truck driver.

GROUP 2: Material trucks, Tandem two teams, Semi-trailers, Winch trucks-fork trucks, Distributor drivers and operators, Agitator and transit mix, Tank wagon drivers, Single axle, Tank wagon drivers, Tandem or semi-trailer, Isley wagons, dump trucks, Excavator, 5 cu. yds., and over, Dumpsters, Half-tracks, Speedace, Euclids and other similar excavating equipment, One team, Station wagons, Pickup truck, Material trucks, single axle, Tank wagon drivers, single axle.

GROUP 3: Oilers and Greasers.

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TEAM0541J 03/25/2000

	Rates	Fringes
TRUCK DRIVERS:		
Traffic Control Service Driver	14.15	2.44+a

a. PAID HOLIDAYS: New Year's Day, Decoration Day, July 4th,  
Labor Day, Thanksgiving Day, Christmas Day,  
Employee's birthday and 2 personal days.  
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TEAM0696A 03/16/1997

	Rates	Fringes
DOUGLAS, JEFFERSON AND SHAWNEE COUNTIES		

TRUCK DRIVERS:

GROUP 1	10.60	2.95
GROUP 2	10.70	2.95
GROUP 3	10.85	2.95

GROUP 1: Pickups, Panel trucks, Station wagons, Flat beds, Dump  
and batch trucks, single axle

GROUP 2: Tandem trucks, Warehousemen or partsmen, Mechanic  
helpers and servicemen

GROUP 3: Lowboys, Semi-trailers, all Transit mixer truck (single  
or tandem Axle), A-frame and winch trucks when used as such,  
Euclid, end and bottom dump, Tournarockers, Atheys, Dumpsters and  
similar off-road equipment and mechanics on such equipment  
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WELDERS - Receive rate prescribed for craft performing operation  
to which welding is incidental.  
=====

Unlisted classifications needed for work not included within  
the scope of the classifications listed may be added after  
award only as provided in the labor standards contract clauses  
(29 CFR 5.5(a)(1)(v)).  
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In the listing above, the "SU" designation means that rates  
listed under that identifier do not reflect collectively  
bargained wage and fringe benefit rates. Other designations  
indicate unions whose rates have been determined to be  
prevailing.

#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can  
be:

- \* an existing published wage determination
- \* a survey underlying a wage determination

- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour

Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.  
END OF GENERAL DECISION

## SECTION 01100

## GENERAL

## PART 1 GENERAL

## 1.1 INQUIRIES

Pursuant to SECTION 00100 paragraph titled "**Explanation to Prospective Bidders**", any inquiries regarding this Invitation, before bids are opened, should be addressed to the District Engineer, Kansas City District, Corps of Engineers, 700 Federal Building, Kansas City, Missouri 64106, ATTN: **Mr. Michael Scott**. Inquiries for which oral explanation or advice on the plans and specifications will suffice may be referred to **Mr. Scott** by calling Area Code 816-983-3639. Telephone calls concerning the mailing of plans and specifications should be made to Contracting Division at Area Code 816-983-3975. Collect telephone calls will not be accepted. (KCDO APR 84)

## 1.2 INFORMATION REGARDING PROPOSAL MATERIAL

Proposals must be submitted upon Government standard bid form (STANDARD FORM 1442 (Rev. 4-85)). Wherever in the proposal the words "invitation" and "bid" occur, they shall be deemed to refer to "solicitation" and "offer," respectively.

## 1.3 TIME FOR ACCEPTANCE BY THE GOVERNMENT OF PROPOSALS

All offerors submitting proposals in response to this request agree that the Government shall have not less than 90 days to accept any proposal, after the date indicated for receipt of proposals. In the event the Government cannot award a contract within this 90 day period, any or all proposers may, at their option, extend the date for acceptance of their proposal or may resubmit their price proposals.

## 1.4 DISPOSAL OF PROPOSALS

After award of the construction contract, proposal sets may be destroyed or may be kept for record. Proposal sets that are kept for records will be for Government use. Disclosure of proposal material, in whole or in part, outside the Government will be restricted only if the provisions of paragraph "Restriction on Disclosure and Use of Data" are in effect.

## 1.5 SUPERINTENDENCE OF SUBCONTRACTORS

(a) The Contractor shall be required to furnish the following:

(1) If more than 50% and less than 70% of the value of the contract work is subcontracted, one superintendent shall be provided at the site and on the Contractor's payroll to be responsible for coordinating, directing, inspecting and expediting the subcontract work.

(2) If 70% or more of the value of the work is subcontracted, the

Contractor shall be required to furnish two such superintendents to be responsible for coordinating, directing, inspecting and expediting the subcontract work.

(b) If the Contracting Officer, at any time after 50% of the subcontracted work has been completed, finds that satisfactory progress is being made, he may waive all or part of the above requirement for additional superintendence subject to the right of the Contracting Officer to reinstate such requirement if at any time during the progress of the remaining work he finds that satisfactory progress is not being made.

#### 1.6 IDENTIFICATION OF EMPLOYEES

The Contractor shall be responsible for furnishing to each employee and for requiring each employee engaged on the work to display identification as may be approved and directed by the Contracting Office. All prescribed identification shall immediately be delivered to the Contracting Officer, for cancellation upon the release of any employee. When required by the Contracting Officer the Contractor shall obtain and submit fingerprints of all persons employed or to be employed on the project.

#### 1.7 APPLICATION OF WAGE RATES

The inclusion of the Davis-Bacon Act General Wage Decision or the Service Contract Act Wage Determination in the solicitation is a statutory requirement. It is not a representation by the U.S. Army Corps of Engineers that any specific work task can be performed by any specific trade. Which work tasks can be performed by what trades depends on and is determined by the prevailing area practice for the local area where the contract is being performed. It is the sole responsibility of the **offeror contractor** to determine and comply with the prevailing area practice. Inquiries regarding a prevailing area practice should be directed to the Corps of Engineers, Contractor Industrial Relations Specialist (telephone number 816-983-3723) or to the Department of Labor Regional Wage and Hour Division.

Application of wage rates and fringe benefits: For the application of the wage rates and fringe benefits contained in the Decision of the Secretary of Labor; attached to and a part of this contract, all work shall be considered Heavy Construction.

#### 1.8 PAYMENTS TO SUBCONTRACTORS

The Contractor's attention is directed to CONTRACT CLAUSE titled "Payment Under Fixed-Price Construction Contracts." In addition to the requirements set forth in the referenced paragraph, the Government will reimburse the Contractor, upon request, for amount of premiums paid by the subcontractors for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor furnishes evidence of full payment to the surety.

#### 1.9 PAYMENTS TO CONTRACTOR (KCD MAY 90 - FORMERLY FAR 52.2/9101(a))

The following is an example of a Contractor's release of claims clauses

required to comply with the provisions of paragraph (h) of the CONTRACT CLAUSE titled "Payments Under Fixed-Price Construction Contracts":

#### RELEASE OF CLAIMS

The undersigned Contractor under contract dated \_\_\_\_\_, 2000, between the United States of America and said Contractor for the \_\_\_\_\_ located at \_\_\_\_\_, in accordance with paragraph (h) of the CONTRACT CLAUSE titled "Payments Under Fixed-Price Construction Contracts" of said contract, hereby releases the United States, its officers, agents, and employees from any and all claims arising under or by virtue of said contract or any modification or change thereof except with respect to those claims, if any, listed below:

(Here itemize claims and amounts due.)

#### 1.10 PROSPECTIVE CONTRACTOR RESPONSIBILITY

Each bidder shall furnish, within 3 calendar days after receipt of request therefor, data which will show the bidder's ability to perform the work or services required by this Invitation for Bids. Such data shall include as a minimum: Bank certification of financial capability, or a financial statement not over 60 days old, which will be treated as confidential (if over 60 days old, a certificate shall be attached thereto stating that the financial condition is substantially the same or, if not the same, the changes that have taken place); names of commercial and financial reporting agencies from whom credit reports may be obtained; trade creditors; name and address of bonding company; business and construction experience; past record of performance of Government contracts; and construction plant and equipment available for this job, with resume of work in progress or other data that will assure that the bidder is in a position to perform the work within the time specified. There shall also be furnished any other available information which will serve to substantiate the bidder's qualifications as a responsible prospective Contractor. (KCD APR 84)

#### 1.11 PERFORMANCE OF WORK BY CONTRACTOR

Bidder's attention is directed to SPECIAL CLAUSE titled "Performance of Work by Contractor." The successful bidder will be required to furnish the Contracting Officer, a description of the work which he will perform with his own organization (e.g., earthwork, paving, etc.), the percentage of the total work this represents, and the estimated cost thereof. Such description of work to be performed by the Contractor's own organization shall be furnished to the Contracting Officer within 10 days after award of the contract.

#### 1.12 LABORATORY AND TESTING FACILITIES

The Contractor shall provide and maintain all measuring and testing devices, laboratory equipment, instruments, transportation, and supplies necessary to accomplish the required testing. All measuring and testing devices shall be calibrated at established intervals against certified standards. The Contractor's measuring and testing equipment shall be made

available for use by the Government for verification of their accuracy and condition as well as for any inspection or test desired pursuant to the CONTRACT CLAUSE titled "Inspection of Construction." The location of the laboratory shall be convenient to the site such that test results are available prior to proceeding with the next sequential phase of the work. (KCD)

#### 1.13 LIMITS OF RIGHT-OF-WAY

Limits of right-of-way within private property shall be established as soon as practicable and at least 30 days prior to commencing work in the immediate vicinity, to allow time for relocation of fences by owners of property adjacent to the location of the work.

#### 1.14 UNAVAILABILITY OF UTILITIES

The responsibility shall be upon the Contractor to provide and maintain at his own expense, adequate utilities for his use for construction and domestic consumption, and to install and maintain necessary connections and lines for same, but only at such locations and in such manner as may be approved by the Contracting Officer. Before final acceptance, temporary connections and lines installed by the Contractor shall be removed in a manner satisfactory to the Contracting Officer.

#### 1.15 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

(a) This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSE titled "Default: (Fixed Price Construction)." In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

(b) The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

#### MONTHLY ANTICIPATED ADVERSE WEATHER DELAY

##### WORK DAYS BASED ON (5) DAY WORK WEEK

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(13)	(9)	(5)	(6)	(7)	(8)	(7)	(5)	(6)	(5)	(3)	(8)

(c) Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the CONTRACT CLAUSE titled "Default (Fixed Price Construction)." (ER 415-1-15)

#### 1.16 REQUIRED INSURANCE SCHEDULE

In accordance with CONTRACT CLAUSE titled "Insurance - Work On A Government Installation," the Contractor shall procure and maintain during the entire period of his performance under this contract the following minimum insurance.

Type	Amount
Workmen's Compensation State Statute	coverage complying with applicable
Employers' Liability	minimum amount of \$100,000.00
General Liability on Comprehensive Form of Policy which includes, but is not limited to, insurance for all work required herein	minimum limits of \$500,000 per occurrence for bodily injury
Comprehensive Automobile Liability	minimum limits of \$200,000 per person and \$500,000 per occurrence for bodily injury, and \$20,000 per occurrence for property damage

(End of clause)

#### 1.17 COORDINATION BETWEEN CONTRACTORS

(See CONTRACT CLAUSE titled "Other Contracts.") Construction work on another contract is underway concurrently with this Contract. The obligations of the Contractor under this Contract will include jointly planning and scheduling the work, on a cooperative basis, with the other Contractor involved in order to minimize delays and interferences. Alterations to systems installed under the other contract, including connections to sewer, waterlines, and bituminous pavement shown as existing, may not be in place.

#### 1.18 PROGRESS PAYMENTS

Progress payments made pursuant to the CONTRACT CLAUSE titled "Payments Under Fixed-Price Construction Contracts" for any item of work in the bid schedule shall be based on the contract unit price or lump sum amount set forth in the bid schedule for that item of work. If the amount of the unit price or lump sum bid for any item of work is in excess of 125% of the Government estimate for such item, the Contracting Officer may require the Contractor to produce cost data to justify the price of the bid item. Failure to justify the bid item price to the satisfaction of the Contracting Officer may result in payment of an amount equal to 125% of the Government estimate for such bid item upon completion of work on the item and payment of the remainder of the bid item price upon final acceptance of all contract work. (KCDO NOV 88)

1.19 DATE OF SAFETY AND HEALTH REQUIREMENTS MANUAL (EM 385-1-1)

(a) The date of the U.S. Army Corps of Engineers Safety and Health Requirements Manual in effect on the date of this solicitation is 3 September 1996. See Section 00700, Contract Clause titled "Accident Prevention."

(b) Section 06.I of EM 385-1-1 is deleted. Job hazard analysis for confined space entry procedures is still required, as per 01.A.09 of EM 385-1-1. OSHA Standards 29 CFR 1910.146 or 29 CFR 1926 shall apply.

(c) Before initiation of work at the job site, an accident prevention plan, written by the prime contractor for the specific work and hazards of the contract and implementing in detail the pertinent requirements of EM 385-1-1, will be reviewed and found acceptable by designated Government personnel.

1.20 COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)

The Contractor shall comply with OSHA standards as well as the most current edition of the Corps of Engineers General Safety Requirements Manual (EM 385-1-1). The OSHA standards are subject to change and such changes may affect the Contractor in his performance under the contract. It is the Contractor's responsibility to know such changes and effective dates of changes.

1.21 CONSTRUCTION EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

Whenever a modification or equitable adjustment of contract price is required, the Contractor's cost proposal for equipment ownership and operating expenses shall be as set forth in SPECIAL CLAUSE titled "Equipment Ownership and Operating Expense Schedule." A copy of EP 1110-1-8 "Construction Equipment Ownership and Operating Expense Schedule" dated August 1995 can be ordered from the Government Printing Office (GPO) by calling Telephone No. 202-512-1800.

1.22 SHOP DRAWINGS

The Contractor's attention is directed to clause "Specifications and Drawings for Construction" of the Contract Clauses.

## 1.23 SUBMITTALS

(a) Submittal Procedures. See Division One SECTION: SUBMITTAL PROCEDURES.

(b) Shop Drawings shall be submitted in ample time to secure approval prior to the time the items covered thereby are to be delivered to the site. ENG Form 4025 and 4026 shall be used for the transmittal of shop drawings. Unless otherwise specified, shop drawings shall be submitted not less than 30 days before commencement of fabrication of fabricated items and not less than 15 days before delivery of standard stock manufactured items. Where materials are stock with the manufacturer, catalog data, including specifications and full descriptive matter, may be submitted as shop drawings. When catalog includes nonapplicable data, the applicable data shall be clearly designated and identified by item number, item name, and name of manufacturer. Shop drawings submitted (including initial and final submittals) shall be reproductions on high quality paper with clear and legible print. Drawings shall generally be bordered a minimum of one inch and trimmed to neat lines and unless otherwise specified, the minimum scale shall be 3/8-inch to the foot. Shop drawings quality will be subject to approval. Each shop drawing, including catalog data, shall be identified with a title block including the name of Contractor, contract number, name and location of project, and name of item of work or structure to which the shop drawing applies. Material fabricated or delivered to the site before approved shop drawings have been returned to the Contractor will be subject to rejection. NO CONSTRUCTION OR INSTALLATION SHALL BE DONE FOR ANY ITEM REQUIRING SHOP DRAWINGS, UNTIL ALL SHOP DRAWINGS FOR THAT ITEM HAVE BEEN APPROVED.

(c) As-Built Shop Drawings: Upon completion of the work under this contract, the Contractor shall furnish five complete sets of prints or one complete set of reproducibles of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted. The quality of the reproducibles and prints is subject to approval.

(d) As-Built Drawings: (NOTE: MOST DRAWINGS ARE SCANNED RECORD DRAWINGS NOT CAD) The Contractor shall maintain three separate sets of red-lined, full scale, as-built construction drawings marked up to fully indicate as-built conditions. These drawings shall be maintained in a current condition at all times until completion of the work, and shall be available for review by Government personnel at all times. All variations from the contract drawings, for whatever reason, including those occasioned by modifications, optional materials, and the required coordination between trades, shall be indicated. These variations shall be shown in the same general detail utilized in the contract drawings. In addition, the Contractor shall indicate on the As-Built Drawings, the brand-name, description, location, and quantity of any and all materials used which contain asbestos. The Contractor shall also be responsible for updating the Government-furnished CADD files to reflect the current as-built conditions throughout the duration of the project. The updated CADD design files shall be maintained in the Intergraph Microstation format consistent with the graphic standards established in the CADD contract drawings provided by the Government. The Contractor will be provided a copy of the

Tri-Service CADD standards to facilitate his efforts in the maintenance of design files. The updated CADD files shall be reviewed by the Government on a monthly basis during the progress payment evaluation. The Contractor shall be prepared to demonstrate the status of the updated CADD files in his on-site office. The as-built utility drawings shall show locations and elevations of all underground new utilities and existing utilities encountered, including dimensions from permanent structures and/or survey locations. The submittal requirements for as-built utility drawings shall be shown as separate activities on the Contractor-prepared network analysis. Upon completion of the work, the marked-up drawings and the updated CADD files shall be furnished to the Contracting Officer on 8 mm tape or CD. In multiphased construction where portions of a system are to be turned over to the user prior to completion of the project, the marked-up drawings for that portion shall be furnished to the Contracting Officer at that time. (MRD ltr 30 Oct 70 and KCD 8 Apr 91)

(e) CADD Files: The Government will provide to the Contractor, within 30 calendar days after Notice of Award, copies of the CADD computer files of the contract drawings for the production of as-built drawings. These files will be in Intergraph Microstation format. The Government provides no warranty, expressed or implied, of the CADD computer files. The Contractor shall assume all responsibility to verify the CADD drawing files. The Contractor will not utilize the CADD drawing computer files to resolve dimensional or other discrepancies. The Government will not guarantee the measurable accuracy of the CADD drawing computer files.

(f) Purchase Orders: Each purchase order issued by the Contractor or his subcontractors for materials and equipment to be incorporated into the project, shall be maintained on file at the Contractor's field office for inspection and review by Government representatives. Each purchase order shall (1) be clearly identified with applicable DA contract number, (2) carry an identifying number, (3) be in sufficient detail to identify the material being purchased, (4) indicate a definite delivery date, and (5) display the DMS priority rating. At the option of the Contractor, the copies of the purchase orders may or may not indicate the price of the articles purchased. (MRD Ltr 22 Oct 74)

#### 1.24 SPECIAL REFERENCES

(a) Shop Drawings. Bidder's attention is directed to SPECIAL CLAUSE titled "Shop Drawings." The basic requirements for Shop Drawings are set forth in the CONTRACT CLAUSES and SPECIAL CLAUSES.

(b) Approved Equal. Bidder's attention is directed to SPECIAL CLAUSE titled "Approved Equal."

(c) Payment to Subcontractors. Bidder's attention is directed to SPECIAL CLAUSE titled "Payments to Subcontractors."

#### 1.25 DIFFERENCES IN DRAWINGS

In addition to the provisions of CONTRACT CLAUSE paragraph "Specifications and Drawings for Construction," the structural drawings shall govern in cases where they differ from the architectural drawings.

## 1.26 PLANTS AVAILABLE

Each bidder shall, upon request of the Contracting Officer, furnish a list of the plants available to the bidder and proposed for use on the work.

## 1.27 DAMAGE TO WORK (KCD02)

(a) The responsibility for damage to any part of the work to be performed under this contract shall be as set forth in the CONTRACT CLAUSE titled "Permits and Responsibilities." However, if the construction is constructed in accordance with plans and progress schedules approved by the Contracting Officer, but is overtopped by flood and such flood causes damage to the construction or if any part of the permanent work is damaged by flood or earthquake, which damage is not due to the failure of the Contractor to take reasonable precaution or to exercise sound engineering and construction practices in the conduct of the work, the Contractor will make the repairs ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, there are no contract unit or lump sum prices applicable to any part of such damaged work, an equitable adjustment pursuant to Contract Clause entitled, Changes, of the contract, will be made as full compensation therefor.

(b) The Contractor may, subject to approval of the Contracting Officer, [or the Contracting Officer may order the Contractor to] flood or breach the cofferdam during a rise prior to, and in anticipation of, natural flooding due to overtopping. Such flooding or breach will be considered the same as though the cofferdam, if constructed in accordance with plans and progress schedules approved by the Contracting Officer, has been overtopped, in which event an equitable adjustment will be made for damage to the cofferdam and/or any part of the permanent work, as provided in (a) above.

## 1.28 WORK ADJACENT TO ROADS AND HIGHWAYS

Where the construction work is on or adjacent to, or involves hauling over public or private roads, streets, or highways, all herein referred to as "roads," the said roads shall, except as otherwise specified or directed, be kept open for traffic at all times during the construction period. Further, the Contractor shall, during said construction, provide, erect and maintain warning signs, lanterns or torches or other safety devices and, when necessary, provide flagmen for protection of traffic to the satisfaction of the Contracting Officer and local authorities. The Contractor shall keep the right-of-way of the roads free of debris that might be caused to accumulate thereon by his operations, and upon completion of the work, shall clean up the said roads and repair any damage to the roads occasioned by his operations under this contract to the satisfaction of the Contracting Officer and local authorities having jurisdiction. The drainage from the roads shall not be obstructed by the construction work. The Contractor shall be responsible for obtaining and paying for all permits required for operation on all roads.

## 1.29 APPROVED EQUAL

The drawings and the TECHNICAL PROVISIONS of these specifications may, in some instances, refer to certain items of equipment, material, or article by trade name. References of this type shall not be construed as limiting competition, but shall be regarded as establishing a standard of quality. In this respect, the Contractor's attention is directed to CONTRACT CLAUSE titled "Material and Workmanship."

## 1.30 SCHEDULE OF WORK

The Contractor's attention is directed to CONTRACT CLAUSE titled "Schedule for Construction Contracts," wherein if, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer.

## 1.31 PROTECTION OF UTILITY LINES

(a) It shall be the Contractor's responsibility to protect all existing utility lines from damage during excavation for utilities systems. Any damage resulting to existing utility systems shall be repaired by the Contractor, to the satisfaction of the contracting officer, at no additional cost to the Government.

(b) All requests for access and/or locations must be made through the Contracting Officer's Representative (COR) or Resident Engineer.

## 1.32 EXPEDITING NOTICE TO PROCEED

Notwithstanding the requirements of Block 12 on page 00010-1 of SECTION 00010 and SECTION 00100 paragraph titled "Late Submissions, Modifications, and Withdrawals of Bids," in order to expedite award of contract and issuance of NOTICE TO PROCEED, it is requested that an officer of the company or corporation determined to be the successful bidder shall appear in the office of the Commander, Kansas City District, Corps of Engineers, 757 Federal Building, 601 East 12th Street, Kansas City, Missouri, for signing contract documents. Therefore, upon written acceptance of this bid, mailed or otherwise furnished within 60 calendar days after the date of opening of bids, it is requested that the successful bidder shall within 48 hours after receipt of notification appear in the office of the Commander and execute Notice to Proceed documents, and give performance and payment bonds on Government Standard forms 25 and 25A with good and sufficient surety. It is also requested that the successful bidder furnish insurance certificates required in SPECIAL CLAUSE titled "Required Insurance Schedule" at this time.

## 1.33 UNEXPECTED HAZARDOUS SUBSTANCES

In the event that suspected hazardous substances are revealed during construction activities, all such construction activities in the immediate area shall be immediately suspended. Hazardous substances for purposes of this specification only, shall be defined as CERCLA hazardous substances,

infectious or radioactive wastes, asbestos or oil. The Contractor shall leave the materials undisturbed and shall immediately report the find to the Contracting Officer's Representative (COR) so that proper authorities can be notified. The Contractor shall not resume construction activities in the vicinity of the suspected hazardous substances until written clearance is received from the COR. Identification and removal of any such materials will be conducted in accordance with all Federal, state and local environmental laws and regulations according to the CONTRACT CLAUSE titled "Differing Site Conditions."

#### 1.34 ASBESTOS-CONTAINING MATERIALS

Bidders are advised that friable and/or non-friable asbestos-containing materials have been identified in areas where contract work is to be performed. Bidder's attention is directed to DIVISION 2.

#### 1.35 KANSAS SALES AND USE TAX

In accordance with FAR clause 52.229-3, notice is given that the contract price excludes the Kansas sales tax and compensating (use) tax on all sales of tangible personal property and materials purchased by the Contractor or subcontractors for the construction of projects, including repairing or remodeling facilities, for the United States. In accordance with Kan. Stats. Anno., sec. 79-3606(e), the Contracting Officer will obtain from the State and furnish to the Contractor an exemption certificate for this project for use by the Contractor and subcontractors in the purchase of materials for incorporation in the project and of services. The Contractor and the subcontractors shall furnish the number of such certificate to all suppliers from whom such purchases are made, and the suppliers shall execute invoices covering the same bearing the number of such certificate. Pursuant to a 1977 Amendment to K.S.A., 1976 Supp., 79-3606(e), effective 1 July 1977, the Contractor is required to retain all invoices for a period of five (5) years during which time these invoices are subject to audit by the Kansas Director of Taxation. Upon completion of the project, the Contractor shall complete the Project Completion Certification (Form STD 77, Rev. 6/77) in duplicate returning one copy to the Contracting Officer, and forwarding the other to the Kansas Director of Taxation. (KCD)

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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**SECTION 01310****CONTRACTOR PREPARED NETWORK ANALYSIS SYSTEM (NAS)****PART 1 GENERAL****1.1 SCOPE**

This section covers requirements for Contractor Prepared Network Analysis System, complete.

**1.2 GENERAL**

The progress chart to be prepared by the Contractor pursuant to the CONTRACT CLAUSE titled "Schedule For Construction Contracts" shall consist of a network analysis system (NAS) as described below. The scheduling of construction is the responsibility of the Contractor and contractor management personnel shall actively participate in development of the network logic diagram so that intended sequences and procedures are clearly understood. The Contractor shall provide the NAS in either Arrow Diagram Method (ADM) or Precedence (PDM) format. The network diagram required for each submission of the NAS shall depict the order and interdependence of activities and the method by which the work is to be accomplished.

**1.3 SUBMITTALS**

SD-01 Data

**1.3.1 Network Diagram; GA-RE**

The diagram shall show a continuous activity flow from left to right. The diagrams shall be 36x48, minimum size unless explicitly modified by the Contracting Officer. The diagrams shall be legible, shall have activities 'grouped' or 'banded' by Project area, building or feature, and shall contain the following information:

- a. Activity number
- b. Activity description
- c. Duration in workdays
- e. Total float in workdays
- f. Logic ties
- h. Clearly marked critical path (s)
- i. 'Banded' or 'grouping' identification on each sheet
- j. Composed and/or milestone dates
- k. Scale of sufficiently large scale to render a legible diagram

Dates shall be shown on the diagram for start of the project, any milestones required by the contract, and contract completion. The critical path shall be clearly identified. Submittal, review, procurement, fabrication, delivery, installation, start-up, and testing of special or long lead-time materials and equipment shall be included in the NAS diagram. Government and other agency activities shall be shown. These include but are not limited to: notice to proceed, approvals, inspections, and utility tie in for phasing requirements.

**1.3.2 Reports: GA-RE****PART 2 PRODUCTS****2.1 NETWORK ANALYSIS SYSTEM**

### 2.1.1 Preliminary Network Diagram

The Contractor shall submit within 10 calendar days of the NOTICE-TO-PROCEED a preliminary NAS schedule covering the first 90 days of operation. The preliminary schedule shall be used for payment not to exceed 60 days after notice to proceed.

### 2.1.2 Initial Detailed NAS

The initial NAS shall be submitted within 40 calendar days after notice to proceed. It shall provide (1) a reasonable sequence of activities which represent work through the entire project and (2) a reasonable level of activity detail. Duration ranges for work activities shall generally be between three and twenty-two workdays. The schedule interval shall extend from notice to proceed through the contract duration specified in SPECIAL CLAUSE titled "Commencement, Prosecution, and Completion of Work" to contract completion date. Completion of the last activity in the schedule shall be constrained by the contract completion date such that if the projected finish of the last activity falls after the contract completion, then the float calculation shall reflect negative float. Interim milestone dates specified shall be so constrained also. Progress payments will be withheld until the Contractor submits an approvable schedule. Since it is understood that the contractor's logic and duration may change between the issuance of the Preliminary NAS and the Initial Detailed NAS, the Contracting Officer shall require a complete and comprehensive accounting of all modifications made to the Preliminary NAS to produce the Initial, Detailed NAS.

#### 2.1.2.1 Format of the Initial Detailed NAS

##### 2.1.2.1.1 Activity Identifier

The field known as the activity number or activity ID shall consist of numeric or alpha/numeric entries. Each major building, area or feature of the work shall have blocks of numbers set aside to identify each such feature. These numbers shall generally be ascending with procurement having the lower number sets, with ascending sets of numeric identifiers being applied to activities in the schedule by area, feature or building. Skip numbering shall be used in minimum increments of tens. The smallest set of numeric activity identifiers shall be used, with no spaces, left zero fills or other symbols to be used. The purpose of this requirement is to provide for simple, ascending activity numbers which will facilitate the computerized review and on-going use of the NAS database. The use of CSI codes, special account codes, identifiers or other matrices which the contractor may wish to use, or which are otherwise required herein, shall be input using data code fields other than the activity number/activity ID field.

##### 2.1.2.1.2 Building, Area or Feature Codes

At least one alpha/numeric field in the scheduling software shall be used to provide a simple and clear identification of the building, area or feature which is represented by the activity.

##### 2.1.2.1.3 Artificial Schedule Constraints

The NAS shall contain no set dates other than those shown in the Contract. The contractor shall review with the Contracting Officer's Representative each proposed set date which the contractor proposes to include in the NAS and shall receive explicit approval for each closed date used in the NAS. The use of artificial float constraints such as 'Zero Free Float' or 'Zero Total Float' options are generally prohibited. The use of such features may be considered if fully justified by the contractor and explicitly approved by the Contracting Officer's Representative prior to its use in the NAS.

##### 2.1.2.1.4 Other Software Options

If the contractor utilizes a scheduling software system which provides updating options such as 'Retained Logic' and 'Progress Override' the contractor shall use the 'Retained Logic' option for all updates to the NAS.

If the contractor desires to modify the approved NAS logic to correct out of-sequence work, the contractor shall

make a request in writing to the Contracting Officer defining the desired modification(s). No unilateral modifications shall be made by the contractor to the approved NAS.

#### 2.1.2.1.5 Resources

The contractor shall include in the NAS all major trades and equipment items required to construct the Project. The trades and major equipment items shall be identified by a unique code and the quantity of the resources shall be input into the scheduling software's 'resource' fields. Each Work activity shall have the planned resources identified as described above by specific trade type and/or equipment type. The resource file library and code listing shall be submitted by the contractor with the Initial, Detailed NAS, along with resource usage curves for each, individual resource code, shown by early and late usage as produced by the scheduling software database.

#### 2.1.2.1.6 Negative Lags

Negative lags shall not be used in the contractor's NAS. If the contractor using PDM scheduling chooses to show-overlapping duration between related activities, start-to-start and finish-to-finish relationships shall be used, with appropriate and justifiable lags. If ADM is used by the contractor, dummies shall have duration of zero.

#### 2.1.2.1.7 Dangles

The only 'dangling' activities in the network shall be the beginning activity such as 'notice of award' or 'notice to proceed' and the ending activity such as 'contract complete'. A start and/or end 'dangle' is defined as an activity whose start is restrained only by the start date of the project or subproject, and/or whose finish is restrained only by the end date of the overall project or subproject.

#### 2.1.2.1.8 Anticipated Weather

The contractor's 'holiday' or 'non-work day' file in the scheduling database shall have the anticipated lost weather days as listed herein input as non work days for each month of the calendar. This anticipated weather impact calendar should only be applied to activities which are subject to weather related delays.

### 2.1.3 Report Formats

The Contractor shall submit a reproducible and two copies of the network diagram at the initial and quarterly updates and three copies of the specified reports at the initial and every monthly update throughout the life of the project. The format of the reports shall contain: Activity Number(s), Activity description, Original Duration, Remaining Duration, Early Start date, Late Start date, Early Finish date, Late Finish date, and Total Float. The three report formats are listed below.

#### 2.1.3.1 Logic Report

This report shall list all activities sorted according to activity number. Activities shall be printed in ascending order of activity number. Any standard report which lists all activities including restraints in this manner is acceptable. This report shall include the detail information related stated above and shall include and display the preceding and succeeding activities.

#### 2.1.3.2 Criticality Report

This report shall list all activities sorted in ascending order of total float. Activities which have equal values of total float shall be listed in ascending order of Early Starts.

#### 2.1.3.3 Cost of Earned Value Report

Cost and/or Earned Value reports shall contain Estimated Earned Value, Percent Complete (based on cost), and Earnings to Date. This report shall compile Contractor's total earned value on the project from the Notice to Proceed until the most recent monthly progress meeting based on agreed progress between the Contractor and the

Contracting Officer. Provided that the Contractor has submitted a complete schedule update, this report shall serve as the basis for determining Contractor payment. When the Bidding Schedule includes bid item(s), activities shall be grouped by bid item and then sorted by activity number(s). This report shall subtotal all activities in a bid item and provide a bid item percent complete and then total all bid items to provide a total project percent complete.

#### 2.1.3.4 Summary Network Diagram

A summary Bar Chart Network shall be submitted monthly. The summary bar chart shall be limited to 150 activities.

### 2.2 MONTHLY MEETINGS

A monthly meeting shall be conducted on site attended by the Contractor's project manager and appropriate Contracting Officer's representatives. During this meeting the Contractor shall describe, on an activity by activity basis, all proposed revisions and adjustments to the NAS required to reflect the current status of the project. The Contracting Officer's representative shall approve activity progress, proposed revisions and adjustments, and the use of any optional calculations. The following shall be addressed:

#### 2.2.1 Actual Start and Finish Dates

The actual start and actual finish dates for all activities in progress or completed as appropriate.

#### 2.2.2 Estimated Remaining Duration

The estimated remaining duration for each activity in progress. Progress calculations must be based on remaining duration for each activity and be in an approved calculation mode. The Estimated Remaining Duration shall not be tie-to the Earned Value.

#### 2.2.3 Earned Value

The earned value for each activity started but not completed. Payment shall be based on cost of completed activities plus cost to date of in progress activities.

#### 2.2.4 Logic Changes

All logic changes pertaining to change orders, on which a Notice to Proceed has been issued, Contractor proposed changes in activity sequence or duration, and corrections to schedule logic to avoid out of sequence progress. All logic changes shall be submitted for approval prior to their insertion into the approved NAS.

### 2.3 UPDATE OF NAS

Following the monthly progress meeting, a complete update of the NAS based on the approved progress, revisions, and adjustments agreed upon at the meeting shall be computed and submitted not later than 5 working days after the meeting. This update shall be subject to approval of the accurate entry of information agreed upon at the meeting. Actual starts and finishes, remaining duration, or percent complete shall not be automatically updated by default dates contained in many CPM scheduling software systems, except that early start for an activity which could start prior to the update. Activities which have posted progress without predecessor activities being completed shall be allowed only on a case by case approval of the Contracting Officer's representative who may require logic changes to correct all such out of sequence progress. No unilateral modifications shall be made to the approved NAS without the explicit approval of the Contracting Officer.

### 2.4 NARRATIVE REPORT

A narrative report shall be provided with each update of the NAS. This report shall include (1) a description of activities and progress along the four most critical paths, (2) a description of a current and anticipated problem areas or delaying factors and their impact, and (3) an explanation of the corrective actions taken. Only

modifications that have been authorized and approved by the Contracting Officer shall be included in the schedule sub-mission. The narrative report shall specifically reference, on an activity by activity basis all changes made since the previous period and relate each change to documented, approved schedule changes. This report, along with the progress update above, shall provide the basis for the Contractor's progress payment request, and the Contractor shall be entitled to progress payments determined from the currently approved NAS update. If the Contractor fails or refuses to furnish the information and NAS data which, in the sole judgment of the Contracting officer, is necessary for verifying the Contractor's progress, the Contractor shall be deemed not to have provided a progress payment estimate and progress payment will not be made.

## 2.5 TIME IMPACT "FRAGNET" ANALYSIS

Within twenty calendar days from the notice to proceed of a change, or from the start of the impact of a mutually recognized changed condition, whichever event occurs first, the contractor shall submit a detailed Time Impact 'fragnet' analysis to the Contracting Officer. The Time Impact 'fragnet' will clearly demonstrate all activities associated with the changed condition, including estimated durations, costs, resources and proposed tie-in points of the 'fragnet' into the approved NAS. Should the contractor fail to submit the 'fragnet' analysis within the expired time period as specified above, it shall be mutually agreed between the contractor and the Contracting officer that the changed condition has no time impact. The foregoing shall not be construed to limit the Contracting Officer's authority to issue unilateral modifications to the Contract as provided for herein.

## 2.6 EXTENSION OF CONTRACT COMPLETION DATE

In the event the Contractor requests an extension of the contract completion date for any other contractual reason, he shall furnish such justification as the Contracting Officer may deem necessary for a determination of the Contractor's right to an extension of time under the provisions of the contract. In such event, the schedule revisions must clearly display that the Contractor has used in full all available float time for the work involved with the request. Actual delays that are found to be caused by the Contractor's own actions or lack of action, and which result in the extension of the projected contract completion date, shall not be cause for extension of the contract completion date. The Contracting Officer may find cause to extend the contract completion date under the contract in the absence of a request by the Contractor when, in the Contracting Officer's judgment, it is equitable.

## 2.7 EXTENSIONS OF TIME

Total Float is defined as the difference in time between the early start date and the late start date, or the difference between the early finish date and the late finish date. Total Float available in the schedule at any time shall not be considered as for exclusive use by either the Contractor or the Government. Extensions of time for performance of work required under CONTRACT CLAUSES titled, "Changes", "Differing Site Conditions", "Default (Fixed Price Construction)" or "Suspension of Work" will be granted only to the extent that equitable time adjustments for affected activities exceed the total float along their paths.

## 2.8 DATA DISC

A data disc shall be provided as required by paragraph: Scheduling System Data Exchange Format. The automated scheduling system utilized by the Contractor shall be capable of providing all requirements of this specification. As many data disk(s) as required in paragraph: Scheduling System Data Exchange Format shall be provided with the Preliminary Schedule, Initial schedule, Monthly Updates, and all NAS revisions or requests for revision.

## 2.9 SCHEDULING SYSTEM DATA EXCHANGE FORMAT

### 2.9.1 Application of This Provision

The data exchange format provides a platform for exchanging scheduling and planning data between various software systems. The Data Exchange Format shall allow project management systems to share information with other programs e.g. Resident Management System (RMS). Scheduling information shall be transferred from the contractor's project management system to the Government as described in this section.

## 2.9.2 Electronic Data Exchange File Required for All Schedule Submissions

### 2.9.2.1 Schedule Data

The Contractor shall provide schedule data in the Data Exchange Format for each Preliminary, Initial, Monthly NAS Updates, and requests for time extensions or change proposals. The Contractor's failure to provide schedule data in the exact format described herein shall result in disapproval of the entire schedule submission.

### 2.9.2.2 Transfer of Schedule Data

The entire set of schedule data shall be transferred at every exchange of scheduling data. Thus, for updates to existing projects, the data exchange file shall contain all activities that have not started or are already complete as well as those activities in progress.

## 2.9.3 Data Transfer Responsibility

The Contractor shall be responsible for Electronic Data Exchange File data that may have been lost or destroyed during transit between the Contractor and the Contracting Officer. If Electronic Data Exchange File data is damaged during transit, then the Contractor shall provide the Contracting Officer with new Electronic Data Exchange File within two (2) working days of notification by the Contracting Officer.

## 2.9.4 Data Consistency Responsibility

The Contractor shall be responsible for the consistency between the Electronic Data Exchange File and printed reports which accompany schedule submissions. If Electronic Data Exchange File and printed reports which accompany schedule submission differs, in any way, from the printed schedule reports or standard activity coding, then the Contracting Officer shall disapprove the entire schedule submission.

The Contractor shall provide the Contracting Officer with a completely revised, and consistent, schedule submission within 24 hours of notification of inconsistency by the Contracting Officer.

## 2.9.5 Creating the Electronic Data Exchange File

The Contractor shall have the option of creating the electronic data exchange file by one of the three following methods.

### 2.9.5.1 Commercially Available Software

The Contractor shall be required to secure software that meets this requirement. Many commercially available scheduling systems support the standard data exchange format. Under this option the Contractor shall produce his own data translation software. This software shall take the information provided by the Contractor's scheduling system and reformat the data into the Data Exchange Format.

### 2.9.5.2 Interface Program

Under this option the Contractor shall produce his own data translation software. This software shall take the information provided by the Contractor's scheduling system and reformat the data into the Data Exchange Format.

### 2.9.5.3 Manual Methods

Under this option the Contractor shall manually reformat his scheduling system report files or create all necessary data by manually entering all data into the Data Exchange Format.

## 2.9.6 File Transfer Medium

All required data shall be submitted on 3 1/2" diskettes), formatted to hold 1.44 MB of data, under the MS-DOS version 5.0 (or higher) operating system. Higher data densities and other operating systems may be approved by the Contracting Officer if compatible with the Government's computing capability.

#### 2.9.7 File Type and Format

The data file shall consist of a 132 character, fixed format, 'ASCII' file. Text shall be left justified and numbers shall be right justified in each field. Data records must conform, exactly, to the sequence column position, maximum length, mandatory values, and field definitions described below to comply with this standard data exchange format. Unless specifically stated, all numbers shall be whole numbers. All data columns shall be separated by a single blank column.

#### 2.9.8 Electronic Data Exchange File Name

The Contractor shall insure that each file has a name related to either the schedule data date, project name, or contract number. No two Electronic Data Exchange Files shall have the same name through out the life of this contract. The Contractor shall submit his file naming convention to the Contracting Officer for approval. In the event that the Contractor's naming convention is disapproved, the Contracting Officer shall direct the contract to provide files under a unique file naming convention.

#### 2.9.9 Disc Label

The Contractor shall affix a permanent exterior label to each diskette submitted. The label shall contain the type of schedule (Preliminary Initial, Update, or Change), full project number, project name, project location, data date, name and telephone number of the Contractor's scheduler, and the MS-DOS version used to format the diskette.

#### 2.9.10 Standard Activity Coding Dictionary

The Contractor shall submit, with the initial schedule submission, a consistent coding scheme that shall be used throughout the project for the Activity Codes shown in paragraph: Activity Records of this section. The coding scheme submitted shall demonstrate that each code shall only represent one type of information through the duration of the contract. Incomplete coding of activities or an incomplete coding scheme shall be sufficient for disapproval of the schedule.

### 2.10 DATA EXCHANGE FILE FORMAT ORGANIZATION

The Data Exchange File Format shall consist of the following records provided in the exact sequence shown below:

Paragraph Record	
Reference Description	Remarks
Volume Record	First Record on Every Data Disk
Project ID Record	Second Record
Calendar Record(s)	Minimum of One Record Required
Holiday Record(s)	Optional Record
Activity Record(s)	Mandatory Record
Precedence Records	Mandatory for Precedence Method
Unit Cost Record(s)	Optional for Unit Cost Projection.
Progress Record(s)	Mandatory for Updates
File End Record	Last Record of Data File

#### 2.10.1 Record Descriptions

##### 2.10.1.1 Volume Record

The Volume Record shall be used to control the transfer of data that may not fit on a single disk. The first record in every disk used to store the data exchange file shall contain the Volume Record. The Volume Record shall sequentially identify the number of the data transfer disk(s). The Volume Record shall have the following format:

Description	Column Position	Max Len.	Required. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	VOLM		Fixed
DISK NUMBER	6- 7	2		Number	Right

a. The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "VOLM".

b. The DISK NUMBER field shall identify the number of the data disk used to store the data exchange information. If all data may be contained on a single disk, this field shall contain the value of "1". If more disks are required, then the second designated with a "3", and so on. Identification of the last date disk shall not be accomplished with the Volume Record. Identification of the last data disk is accomplished in the PROJECT END RECORD (see paragraph: File End Record).

#### 2.10.1.2 Project ID Record

The Project ID Record is the second record of the file and shall contain project information in the following format:

Description	Column Position	Max. Len.	Required. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	PROJ		Fixed
DATA DATE	6- 12	7	-	ddmmmyy	See(2)
PROJECT IDENTIFIER	14- 17	4	-	Alpha	Left
PROJECT NAME	19- 66	48	-	Alpha	Left
CONTRACTOR NAME	68-103	36	-	Alpha	Left
ARROW OR PRECEDENCE	105	1	A,P	Fixed	
CONTRACT NUMBER	107-112	6	-	Alpha	Left
PROJECT START	114-120	7	-	ddmmmyy	Filled
PROJECT END	122-128	7		ddmmmyy	Filled

a. The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "PROJ". This record shall contain the general project information and indicates which scheduling method shall be used.

b. The DATA DATE is the date of the schedule calculation. The abbreviation "ddmmmyy" refers to a date format that shall translate a date into two numbers for the day, three letters for the month, and two numbers for the year. For example, March 1, 1999 shall be translated into OIMAR99. This same convention for date formats shall be used throughout the entire data format. To insure that dates are translated consistently, the following abbreviations shall be used for the three character month code:

Abbreviation	Month
JAN	January
FEB	February
MAR	March
APR	April
MAY	May
JUN	June

JUL	July
AUG	August
SEP	September
OCT	October
NOV	November
DEC	December

c. The PROJECT IDENTIFIER is the maximum of four-character abbreviation for the schedule. These four characters shall be used to uniquely identify the project and specific update as agreed upon by the Contractor and Contracting Officer. When utilizing scheduling software these four characters shall be used to select the project. Software manufacturers' shall verify that data importing programs do not automatically overwrite other schedules with the same PROJECT IDENTIFIER.

d. The PROJECT NAME field shall contain the name and location of the project edited to fit the space provided. The data appearing here shall appear on scheduling software reports. The abbreviation "Alpha" used throughout paragraph six, RECORD DESCRIPTIONS, refers to an Alphanumeric" field value.

e. The CONTRACTOR NAME field shall contain the Construction Contractor's name edited to fit the space provided.

f. The ARROW OR PRECEDENCE field shall indicate which method shall be used for calculation of the schedule. The value "A" shall signify the Arrow Diagramming Technique. The value "P" shall signify the Precedence Diagramming Technique. The ACTIVITY IDENTIFICATION field of the Activity Record shall be interpreted differently depending on the value of this field (see paragraph 2.10.1.6 b). The Precedence Record shall be required if the value of this field is "P" (see paragraph 2.10.1.6).

g. THE CONTRACT NUMBER field shall directly identify the contract for the project. For example, a complete Government construction contract number, "DACA41-98-C-0001" shall be entered into this field as "980001".

h. The PROJECT START shall contain the date that the project will start or has started. On Government construction projects, this date is the date that the construction contractor acknowledges the Notice to Proceed.

i. The PROJECT END shall contain the data that the contract must complete on or prior to. On Government construction projects, this date is the PROJECT START plus the contract period, typically expressed in a specific number of calendar days.

### 2.10.1.3 Calendar Record

The Calendar Record(s) shall follow the Project Identifier Record in every data file. A minimum of one Calendar Record shall be required for all data exchange activity files. The format for the Calendar Record shall be as follows:

Description	Column Position	Max Len.	Required. Value	Type	Just.
RECORD IDENTIFIER	1-4	4	CLDR	Fixed	
CALENDAR CODE	6-6	1	-	Alpha.	Filled
WORKDAYS	8-14	7		SMTWTFS	See (3)
CALENDAR DESCRIPTION	16-45	30		Alpha.	Left

a. The RECORD IDENTIFIER shall always begin with "CLDR" to identify it as a Calendar Record. Each Calendar Record used shall have this identification in the first four columns.

- b. The CALENDAR CODE shall be used in the activity records to signify that this calendar is associated with the activity.
- c. The WORKDAYS field shall contain the work week pattern selected with "Y" for Yes, and "N" for No. The first character shall be Sunday and the last character Saturday. An example of a typical five-(5) day workweek would be NYYYYYN. A seven-(7) day workweek would be YYYYYYY.
- d. The CALENDAR DESCRIPTION shall be used to briefly explain the calendar used. optional Holiday Record(s) shall follow the Calendar record(s). The Holiday Record shall be used to designate specific non-work days for a specific Calendar. More than one Holiday Record may be used for a particular calendar. If used, the following format shall be followed:

Description	Column Position	Max. Len.	Required. Value	Type	Just.
RECORD IDENTIFIER	1- 4	4	HOLI	Fixed	
CALENDAR CODE	6- 6	1	-	Alpha.	Filled
HOLIDAY DATE	8- 14	7	-	ddmmmyy	Filled
HOLIDAY DATE	16- 22	7	-	ddmmmyy	Filled
HOLIDAY DATE	24- 30	7	-	ddmmmyy	Filled
HOLIDAY DATE	32- 38	7	-	ddmmmyy	Filled
HOLIDAY DATE	40- 46	7	-	ddmmmyy	Filled
HOLIDAY DATE	48- 54	7	-	ddmmmyy	Filled
HOLIDAY DATE	56- 62	7	-	ddmmmyy	Filled
HOLIDAY DATE	64- 70	7	-	ddmmmyy	Filled
HOLIDAY DATE	72- 78	7	-	ddmmmyy	Filled
HOLIDAY DATE	80- 86	7	-	ddmmmyy	Filled
HOLIDAY DATE	88- 94	7	-	ddmmmyy	Filled
HOLIDAY DATE	96- 102	7	-	ddmmmyy	Filled
HOLIDAY DATE	104- 110	7	-	ddmmmyy	Filled
HOLIDAY DATE	112- 118	7	-	ddmmmyy	Filled
HOLIDAY DATE	120- 126	7	-	ddmmmyy	Filled

- a. The RECORD IDENTIFIER shall always begin with "HOLI" and shall signify an Optional Holiday Calendar is to be used.
- b. The CALENDAR CODE indicates which work week calendar the holidays shall be applied to. More than one HOLI record may be used for a given CALENDAR CODE.
- c. The HOLIDAY DATE is to be used for each date to be designated as a non-work day.

#### 2.10.1.5 Activity Records

Activity Records shall follow any Holiday Record(s). If there are no Holiday Record(s), then the Activity Records shall follow the Calendar Record(s). There shall be one Activity Record for every activity in the network. Each activity shall have one record in the following format:

Description	Column Position	Max. Len.	Required. Value	Type	Just.
RECORD IDENTIFIER	1- 4	4	ACTV	Fixed	
ACTIVITY IDENTIFICATION	6- 15	10			See(2)
ACTIVITY DESCRIPTION	17- 46	30		Alpha.	Left
ACTIVITY DURATION	48- 50	3		Integer	Right
CONSTRAINT DATE	52- 58	7		ddmmmyy	Filled

CONSTRAINT TYPE	60- 61	2			See (7)
CALENDAR CODE	63- 63	1		Alpha.	Filled
HAMMOCK CODE	65- 65	1	Y.blank	Fixed	
WORKERS PER DAY	67- 69	3		Integer	Right
RESPONSIBILITY CODE	71- 74	4		Alpha.	Left
WORK AREA CODE	76- 79	4		Alpha.	Left
MOD OR CLAIM NUMBER	81- 86	6		Alpha.	Left
BID ITEM	88- 93	6		Alpha.	Left
PHASE OF WORK	95- 96	2		Alpha.	Left
CATEGORY OF WORK	98- 98	1		Alpha.	Filled
FEATURE OF WORK	100-129	30		Alpha.	Left

a. The RECORD IDENTIFIER for each activity description record must begin with the four-character "ACTV" code. This field shall be used for both the Arrow Diagram Method (ADM) and Precedence Diagram Method (PDM) (see paragraph: Activity Records).

b. The ACTIVITY IDENTIFICATION consists of coding that differs, depending on whether the ADM or PDM method was selected in the Project Record (see paragraph: Project ID Record). If the ADM method was selected, then the field shall be interpreted as two right justified fields of five (5) integers each. If the PDM method was selected, the field shall be interpreted as one (1) right-justified field of ten (10) integers or alpha/numeric characters. The maximum activity number allowed under this arrangement is 99999 for ADM and 9999999999 for the PDM method.

c. The ACTIVITY DESCRIPTION shall be a maximum of 30 characters. Descriptions must be limited to the space provided.

d. The ACTIVITY DURATION contains the estimated duration for the activity on the schedule. The duration shall be based upon the workweek designated by the activity's related calendar.

e. The CONSTRAINT DATE field shall be used to identify a date that the scheduling system may use to modify float calculations. If there is a date in this field, then there must be a valid entry in the CONSTRAINT TYPE field. The CONSTRAINT DATE shall be the same as, or later than, the PROJECT START DATE. The CONSTRAINT DATE shall be the same as, or earlier than, the PROJECT END DATE.

f. The CONSTRAINT TYPE field shall be used to identify the way that the scheduling system shall use the CONSTRAINT DATE to modify schedule float calculations. If there is a value in this field, then there must be a valid entry in the CONSTRAINT DATE TYPE. Other types may be available from specific software manufacturers.

Code    Definition

ES        The CONSTRAINT DATE shall replace an activity's early start date, if the early start date is prior to the CONSTRAINT DATE.

LF        The CONSTRAINT DATE shall replace an activity's late finish date, if the late finish date is after the CONSTRAINT DATE.

g. The CALENDAR CODE, as previously explained, relates this activity to an appropriate workweek calendar. The ACTIVITY DURATION must be based on the valid workweek referenced by this CALENDAR CODE field.

h. The HAMMOCK CODE indicates that a particular activity does not have its own independent duration, but takes its start dates from the start date of the preceding activity (or node) and takes its finish dates from

the finish dates of its succeeding activity (or node). If the value of the HAMMOCK ACTIVITY field is "Y", then the activity is a HAMMOCK ACTIVITY.

i. The WORKERS PER DAY. This field may contain the average number of workers expected to work on the activity each day the activity is in progress. The total duration times the average number of workers per day shall equal the contractor's estimate of the total man days of work required to perform the activity.

j. The RESPONSIBILITY CODE shall identify the Subcontractor or major trade involved with completing the work for the activity.

k. The WORK AREA CODE shall identify the location of the activity within the project.

l. The MOD OR CLAIM NUMBER CODE. This code shall be use to uniquely identify activities that are changed on a construction contract modification, or activities that justify any claimed time extensions.

m. The BID ITEM field shall designate the bid item number associated with the activity. The values of all the various activities shall sum to the amount stated in the Contract Bid Item Schedule.

n. The PHASE OF CONSTRUCTION shall designate phase to which an activity is connected. This field shall used for submittals, procurement, fabrication, site work or building or areas within a building, etc..

o. The CATEGORY OF WORK shall be from the following list:

CODE	DESCRIPTION
A	Architectural
C	Civil
E	Electrical
F	Fire Extinguish
H	Hazardous/Toxic
M	Mechanical
P	Plumbing
R	Roofing
S	Structural
T	Safety
X	Administrative

p. The FEATURE OF WORK shall match those in the Resident Management system that is to be used on this project. See the attached RMS data Sheets listing some examples of the features of work.

#### 2.10.1.6 Precedence Record

The Precedence Record(s) shall follow the Activity Records if a Precedence Type Schedule (PDM) is identified in the ARROW OR PRECEDENCE field of the Project Record (see paragraph: Project ID Record). The Precedence Record has the following format:

Description	Column Position	Max. Len.	Required. Value	Type	Just.
RECORD IDENTIFIER	1- 4	4	PRED	Fixed	
ACTIVITY IDENTIFICATION	6- 15	10	-	Integer	See (2)
PRECEDING ACTIVITY	17- 26	10	-	Integer	
PREDECESSOR TYPE	28- 28	1	S,F,C		Filled
LAG DURATION	30- 33	4	-	Integer	Right

- a. The RECORD IDENTIFIER shall begin with the four characters "PRED" in the first four columns of the record.
- b. The ACTIVITY IDENTIFICATION identifies the activity whose predecessor shall be specified in this record. Refer to the Activity Record for further explanation on this field (see paragraph 2.10.1.5 b.).
- c. The PREDECESSOR ACTIVITY number is the number of an activity that precedes the activity noted in the ACTIVITY IDENTIFICATION field.
- d. The PREDECESSOR TYPE field indicates the type of relationship that exists between the chosen pair of activities. The PREDECESSOR TYPE field must, as minimum, contain one of the codes listed below. Other types of activity relations may be supported from specific software vendors.

Code	Definition
S	Start-to-Start relationship
F	Finish-to-Finish relationship
C	Finish-to-Start relationship

- e. The LAG DURATION field contains the number of day's delay between the preceding and current activity.

#### 2.10.1.7 Unit Cost Record

The Unit Cost Record shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Unit Cost Record shall follow any Activity Records. The fields for this record shall take the following format:

Description	Column Position	Max. Len.	Required. Value	Type	Just.
RECORD IDENTIFIER	1-4	4	UNIT	Fixed	
ACTIVITY IDENTIFICATION	6-15	10	-	Integer	See (2)
TOTAL QTY	17-29	13	-	8.4	Right
COST PER UNIT	31-43	13	-	8.4	Right
QTY TO DATE	45-57	13	-	8.4	Right
UNIT OF MEASURE	59-61	3	-	Alpha.	Left

- a. The RECORD IDENTIFIER shall be identified with the four characters "UNIT" placed in the first four columns of the record.
- b. The ACTIVITY IDENTIFICATION for each activity shall match the format described in the activity record (see paragraph 2.10.1.5 b.).
- c. The TOTAL QTY is the total amount of this type of material to be used in this activity. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed, this field shall still contain a ".0000" in columns 25, 26, 27, 28 and 29.
- d. The COST PER UNIT is the cost, in dollars and cents, for each unit to be used in this activity. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed, this field shall still contain an ".0000" in columns 38, 39, 41, 42 and 43.
- e. The QTY TO DATE is the quantity of material installed in this activity up to the data date. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is

"11111111.1111". If decimal places are not needed, this field shall still contain a ".0000" in columns 53, 54, 55, 56, and 57.

f. The UNIT OF MEASURE is an abbreviation that may be used to describe the units being measured for this activity.

#### 2.10.1.8 Progress Record

Progress Record(s) shall follow all Unit Cost Record(s). If there are no Unit Cost Record(s), then the Progress Record(s) shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Progress Record shall follow any Activity Records. One Record shall exist for each activity in-progress or completed. The fields for this Record shall take the following format:

Description	Column Position	Max. Len.	Required. Value	Type	Just.
RECORD IDENTIFIER	1- 4	4	PROG		Fixed
ACTIVITY IDENTIFICATION	6- 15	10	-	Integer	See (2)
ACTUAL START DATE	17- 23	7	-	ddmmmyy	Full
ACTUAL FINISH DATE	25- 31	7	-	ddmmmyy	Full
REMAINING DURATION	33- 35	3	-	Integer	Right
ACTIVITY COST	37- 48	12	-	9.2	Right
COST TO DATE	50- 61	12	-	9.2	Right
STORED MATERIAL	63- 74	12	-	9.2	Right
EARLY START DATE	75- 82	7	-	ddmmmyy	
EARLY FINISH DATE	84- 90	7	-	ddmmmyy	
LATE START DATE	92- 98	7	-	ddmmmyy	
LATE FINISH DATE	100-106	7	-	ddmmmyy	
FLOAT SIGN	108-108	1	+,-	Fixed	
TOTAL FLOAT	110-112	3	-	Integer	Right

a. The RECORD IDENTIFIER shall begin with the four characters "PROG" in the first four columns of the record.

b. The ACTIVITY IDENTIFICATION for each activity for which progress has been posted, shall match the format described in the Activity Record (see paragraph 2.10.5(b)).

c. The ACTUAL START DATE is required for all in-progress activities. The ACTUAL START DATE shall be the same as, or later than, the PROJECT START DATE contained in the Project Record (see paragraph 2.10.2(h)). The ACTUAL START DATE shall also be the same as, or prior to, the DATA DATE contained in the Project Record.

d. An ACTUAL FINISH DATE is required for all completed activities. If the REMAINING DURATION of an activity is zero, then there must be an ACTUAL FINISH DATE. The ACTUAL FINISH DATE must be the same as, or later than the PROJECT START date contained in the Project Record .(see paragraph 2.10.2(h)). The ACTUAL FINISH DATE must also be the same as, or prior to the DATA DATE contained in the Project Record.

e. REMAINING DURATION is required for all in-progress activities. Activities completed, based on time, shall have a zero (0) REMAINING DURATION

f. Cost Progress is contained in the field COST TO DATE. If there is an ACTUAL START DATE, then there must also be some value for COST TO DATE. The COST TO DATE shall not be tied to REMAINING DURATION. For example, if the REMAINING DURATION is "O", the COST TO DATE may only be 95% of the ACTIVITY COST. This difference may be used to reflect 5% retainage for punch list items.

### 2.10.1.9 File End Record

The File End Record shall be used to identify that the data file is completed. This record shall be the last record of the entire data file. The File End Record shall have the following format:

Description	Column Position	Max. Len.	Required. value	Type	Just.
RECORD IDENTIFIER	I- 3	3		END	Fixed

- a. The RECORD IDENTIFIER for the File End Record shall be "End". No data contained in the data exchange file that occurs after this record is found shall be used.

## PART 3 EXECUTION

### 3.1 TRANSFER OF SCHEDULE DATA INTO RESIDENT MANAGEMENT SYSTEM

The Contractor shall also be responsible for the downloading and uploading of the schedule data into the Resident Management System (RMS) that will be used on the subject Contract prior to the RMS databases being transfer to the Government as part of the monthly and final payment requests.

3.2 Provide the Government a copy of the Contractors software.

-- End of Section --

## SECTION 01312

## RESIDENT MANAGEMENT SYSTEM (RMS)

05/00

## PART 1 GENERAL

## 1.1 GENERAL INFORMATION

The Government will use the Resident Management System for Windows (RMS-W) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS-Windows, referred to as RMS-QC (QC for Quality Control), to record, maintain, and submit various information throughout the contract period. This joint Government-Contractor use of RMS-W and RMS-QC will facilitate electronic exchange of information and overall management of the contract. RMS-QC provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

Administration

Finances

Quality control

Submittal Monitoring

Scheduling

Import/Export of Data

## 1.1.1 Correspondence and Electronic Communications

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

## 1.1.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", Section 01320, "Project Schedule", Section 01330, SUBMITTAL PROCEDURES, and Section 01451, CONTRACTOR QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through RMS-QC. Also, there is no separate payment for establishing and maintaining the RMS-QC database; all costs associated therewith shall be included in the contract pricing for the work.

## 1.2 RMS-QC SOFTWARE

RMS-QC is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the RMS-QC software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the RMS-QC software from the Government's RMS Internet Website. Upon specific justification and request by the Contractor, the Government can provide RMS-QC on 3-1/2" high-density diskettes or CD-ROM. Any program updates of RMS-QC will be made available to the Contractor via the Government RMS Website as they become available.

## 1.3 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run RMS-QC:

### **Hardware**

- IBM-compatible PC with 200 MHz Pentium or higher processor
- 32+ MB RAM
- 4 GB hard drive disk space for sole use by the RMS-QC system
- 3-1/2 inch high-density floppy drive
- Compact disk (CD) Reader
- Color monitor
- Laser printer compatible with HP LaserJet III or better, with minimum 4 MB installed memory
- Connection to the Internet, minimum 28 BPS

### **Software**

- Microsoft (MS) Access 97 or newer version database software
- MS Windows 95 or newer version operating system (MS Windows NT 4.0 or newer is recommended)
- Word Processing software compatible with MS Word 97 or newer
- Internet browser
- The Contractor's computer system shall be protected by virus protection software that is regularly upgraded with all issued manufacturer's updates throughout the life of the contract.
- Electronic mail (E-mail) compatible with MS Outlook

## 1.4 RELATED INFORMATION

### 1.4.1 RMS-QC User Guide

After contract award, the contractor shall download instructions for the installation and use of RMS-QC from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

### 1.4.2 Contractor Quality Control (CQC) Training

The use of RMS-QC will be discussed with the Contractor's QC System Manager during the mandatory CQC training class.

#### 1.4.3 Video Training for RMS-QC

After contract award, the Contractor will be provided with a CD containing a training video on the use of RMS-QC.

#### 1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for RMS-QC. The Government will provide data updates to the Contractor as needed, generally by files attached to E-mail. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

#### PART 2 PRODUCTS (Not Applicable)

#### PART 3 EXECUTION

##### 3.1 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the RMS-QC database throughout the duration of the contract. The contractor shall establish and maintain the RMS-QC database at the Contractor's site office. Data updates to the Government shall be submitted by E-mail with file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer, a data diskette or CD-ROM may be used instead of E-mail (see Paragraph DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM). The RMS-QC database typically shall include current data on the following items.

##### 3.1.1 Administration

###### 3.1.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of RMS-QC software from the Government, the Contractor shall deliver contractor administrative data in electronic format via E-mail.

###### 3.1.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in RMS-QC. Within 14 calendar days of receipt of RMS-QC software from the Government, the Contractor shall deliver subcontractor administrative data in electronic format via E-mail.

###### 3.1.1.3 Correspondence

All Contractor correspondence to the Government shall be identified with serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001 (e.g., H-0001 or S-0001). The Government's letters to the contractor will be prefixed with "C".

#### 3.1.1.4 Requests for Information

RMS-QC includes a means for the Contractor to enter, log, and transmit requests for information (RFI) to the Government. RFIs can be exchanged electronically using the import/export functions of RMS-QC. The Contractor shall also provide the Government with a signed, printed copy of each RFI. All RFIs from the Contractor to the Government shall have the prefix "RFI" and shall be numbered sequentially beginning with RFI-0001.

#### 3.1.1.5 Equipment

The Contractor's RMS-QC database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

#### 3.1.1.6 EM 385-1-1, Corps of Engineers Safety Manual and RMS Linkage

Upon request, the Contractor can obtain a copy of the current version of the Safety Manual, EM 385-1-1, on Cd. Data on the Cd will be accessible through RMS-QC, or in stand-alone mode.

#### 3.1.1.7 Management Reporting

RMS-QC includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of RMS-QC. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

### 3.1.2 Finances

#### 3.1.2.1 Pay Activity Data

The RMS-QC database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

#### 3.1.2.2 Payment Requests

All progress payment requests shall be prepared using RMS-QC. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as

percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using RMS-QC. The Contractor shall submit the payment requests with supporting data by E-mail with file attachment(s), If permitted by the Contracting Officer, a data diskette may be used instead of E-mail. A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

### 3.1.3 Quality Control

RMS-QC provides a means to track implementation of the 3-phase QC Control System, Prepare daily reports, identify and track deficiencies, document progress of work, and support other contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data will automatically output to the RMS-QC-generated daily report. The Contractor shall provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01451, CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, the Contractor shall submit a data diskette or CD-ROM reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

#### 3.1.3.1 Daily Contractor Quality Control (CQC) Reports

RMS-QC includes the means to produce the Daily CQC Report. The contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by RMS-QC shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the RMS-QC-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by Section 01451, CONTRACTOR QUALITY CONTROL. Reports shall be submitted electronically to the Government using E-mail or diskette within 24 hours after the date covered by the report. Use of either mode of submittal shall be coordinated with the Government representative. The Contractor shall also provide the Government a signed, printed copy of the daily CQC report.

#### 3.1.3.2 Deficiency Tracking

The Contractor shall use RMS-QC to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC comments. The Contractor shall maintain a current log of its QC comments in the RMS-QC database. The Government will log the deficiencies it has identified using its QA comments. The Government's QA comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA comments.

#### 3.1.3.3 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS-QC.

#### 3.1.3.4 Accident/Safety Tracking

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize RMS-QC to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 200.

#### 3.1.3.5 Features of Work

The Contractor shall include a complete list of the features of work in the RMS-QC database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of Paragraph "Finances") will only be linked to a single feature of work.

#### 3.1.3.6 QC Requirements

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in RMS-QC. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via RMS-QC.

#### 3.1.4 Submittal Management

The Government will provide the initial submittal register, ENG Form 4288, SUBMITTAL REGISTER, in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns as described in Section 01330, SUBMITTAL PROCEDURES. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use RMS-QC to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using RMS-QC. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

#### 3.1.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause "Schedules for Construction Contracts", or Section 01320, PROJECT SCHEDULE, as applicable. This schedule shall be input and maintained in the RMS-QC database either manually or by using the Standard Data Exchange Format (SDEF) (see Section 01320 PROJECT SCHEDULE). The updated schedule data shall be included with each pay request submitted by the Contractor.

#### 3.1.6 Import/Export of Data

RMS-QC includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data using SDEF.

### 3.2 IMPLEMENTATION

Contractor use of RMS-QC as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its RMS-QC database, and to provide the Government with regular database updates. RMS-QC shall be an integral part of the Contractor's management of quality control.

### 3.3 DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM

The Government-preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of computer diskettes or CD-ROM for data transfer. Data on the disks or CDs shall be exported using the RMS-QC built-in export function. If used, diskettes and CD-ROMs will be submitted in accordance with the following.

#### 3.3.1 File Medium

The Contractor shall submit required data on 3-1/2" double-sided high-density diskettes formatted to hold 1.44 MB of data, capable of running under Microsoft Windows 95 or newer. Alternatively, CD-ROMs may be used. They shall conform to industry standards used in the United States. All data shall be provided in English.

#### 3.3.2 Disk or CD-ROM Labels

The Contractor shall affix a permanent exterior label to each diskette and CD-ROM submitted. The label shall indicate in English, the RMS-QC file name, full contract number, project name, project location, data date, name and telephone number of person responsible for the data.

#### 3.3.3 File Names

The Government will provide the file names to be used by the Contractor with the RMS-QC software.

### 3.4 MONTHLY COORDINATION MEETING

The Contractor shall update the RMS-QC database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one week prior to submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions. The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable RMS-QC export file is received.

### 3.5 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the propose of notification.

## SECTION 01330

## SUBMITTAL PROCEDURES

09/00

## PART 1 GENERAL

## 1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers and titles as follows:

## 1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

## 1.2.1 Government Approved

Government approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

## 1.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

## 1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

## 1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. **Caution:** The Contractor is cautioned that for each Contractor's resubmittal required beyond the initial submittal and one resubmittal for corrections required by the Contracting Officer, the Contracting Officer will assess Administrative Deduction in the amount of \$500.00 from the progress payments due the

Contractor. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

#### 1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

#### PART 2 PRODUCTS (Not used)

#### PART 3 EXECUTION

##### 3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System Manager and each item shall be stamped, signed, and dated by the CQC System Manager indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

##### 3.2 SUBMITTAL REGISTER

At the end of this section is a submittal register showing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor shall complete and submit the forms to the Contracting Officer for approval within twenty (20) calendar days after the Notice to Proceed. The Contractor shall maintain a submittal register for the project in accordance with **Section 01312 RESIDENT MANAGEMENT SYSTEM (RMS)**; .

##### 3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings

shall be so scheduled. Adequate time (a minimum of thirty (30) calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

### 3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the RMS-QC software that the Contractor is required to use for this contract. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

### 3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

#### 3.5.1 Procedures

The Contractor shall submit for approval five (5) copies of all submittals.

For all Military projects an additional copy of all submittals (for information only) related to fire protection/detection systems shall be submitted to RE for review by the Fire Chief. The mailing address for these submittals shall be obtained at the preconstruction conference. Items not to be submitted in quintuplicate, such as samples and test cylinders, shall be submitted accompanied by five (5) copies of ENG Form 4025. Items to be sent to the Engineering and Construction Division (EC) shall be sent to EC-DS or EC-GL, addressed as follows:

US Army Engineer District, Kansas City  
Federal Building, 601 East 12th Street  
Kansas City, Missouri 64106-2896

#### 3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

### 3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

### 3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Four copies of the submittal will be retained by the Contracting Officer and one copy of the submittal will be returned to the Contractor.

### 3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

### 3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

<p>CONTRACTOR</p> <p>(Firm Name)</p> <p>_____ Approved</p> <p>_____ Approved with corrections as noted on submittal data and/or attached sheets(s).</p> <p>SIGNATURE: _____</p> <p>TITLE: _____</p> <p>DATE: _____</p>
--

-- End of Section --

CONTRACT NO.

Perry Gate Repair DACW41-02-R-0014

CONTRACTOR:  
SCHEDULE DATES

CONTRACTOR ACTION	
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APPROVING AUTHORITY

MAILED  
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GOVT CLASSIFICATION

APPROVAL  
NEEDED

## MATERIAL NEEDED

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## SECTION 01354

ENVIRONMENTAL PROTECTION FOR CIVIL WORKS  
10/95

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261 Identification and Listing of Hazardous Waste

## ENGINEERING MANUALS (EM)

EM 385-1-1 (1996) U.S. Army Corps on Engineers Safety and Health Requirements Manual

## 1.2 DEFINITIONS

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of plant or animal communities; or degrade the environment from an aesthetic, cultural or historic perspective. Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants.

## 1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Retention Pond Removal Plan; GA.

Submit plan detailing Contractor's procedures for testing and removal of retention pond sediment.

## 1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall comply with all applicable Federal, State, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction.

#### 1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984). The Contractor shall prepare a list of features requiring protection under the provisions of the contract clause which are not specially identified on the drawings as environmental features requiring protection. The Contractor shall protect those environmental features, indicated specially on the drawings, in spite of interference which their preservation may cause to the Contractor's work under the contract.

#### 1.4.2 Permits

This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has already obtained environmental permits. The Government has obtained permits for the work. The contractor shall comply with the terms, and conditions of these permits. The contractor shall also comply with other environmental commitments made by the Government. Copies of permit terms and conditions as well as those other commitments made by the Government are included at the end of this section.

#### 1.4.3 Special Environmental Requirements

The Contractor shall comply with the special environmental requirements included at the end of this section. These special environmental requirements are an outgrowth of environmental commitments made by the Government during the project development.

#### 1.4.4 Environmental Assessment of Contract Deviations

The Contract specifications have been prepared to comply with the special conditions and mitigation measures of an environmental nature which were established during the planning and development of this project. The Contractor is advised that deviations from the drawings or specifications (e.g., proposed alternate borrow areas, disposal areas, staging areas, alternate access routes, etc.) could result in the requirement for the Government to reanalyze the project from an environmental standpoint. Deviations from the construction methods and procedures indicated by the plans and specifications which may have an environmental impact will require an extended review, processing, and approval time by the Government. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

#### 1.5 ENVIRONMENTAL PROTECTION PLAN

Within 20 calendar days of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan not later than 30 calendar days after receipt of the Notice to Proceed. Acceptance is conditional and is predicated upon satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes in the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. The plan shall detail the actions which the Contractor shall take to comply with all applicable Federal, State, and local laws and regulations concerning environmental protection and pollution control and abatement, as well as the additional specific requirements of this contract. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The environmental protection plan shall include, but not be limited to, the following:

#### 1.5.1 List of State and Local Laws and Regulations

The Contractor shall provide as part of the Environmental Protection Plan a list of all State and local environmental laws and regulations which apply to the construction operations under the Contract.

#### 1.5.2 Spill Control Plan

The Contractor shall include as part of the environmental protection plan, a Spill Control Plan. The plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by the Emergency Response and Community Right-to-Know Act or regulated under State or local laws or regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

- a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.
- b. Training requirements for Contractor's personnel and methods of accomplishing the training.
- c. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
- d. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
- e. The methods and procedures to be used for expeditious contaminant cleanup.
- f. The name of the individual who will report any spills or hazardous

substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity spill occurs. The plan shall contain a list of the required reporting channels and telephone numbers.

#### 1.5.3 Recycling and Waste Minimization Plan

The Contractor shall submit a Recycling and Waste Minimization Plan as a part of the Environmental Protection Plan. The plan shall detail the Contractor's actions to comply with the following recycling and waste minimization requirements:

- a. The Contractor shall participate in State and local government sponsored recycling programs to reduce the volume of solid waste materials at the source.
- b.

#### 1.5.4 Contaminant Prevention Plan

As a part of the Environmental Protection Plan, the Contractor shall prepare a contaminant prevention statement identifying potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, water, or ground. The Contractor shall detail provisions to be taken to meet Federal, State, and local laws and regulations regarding the storage and handling of these materials.

#### 1.5.5 Environmental Monitoring

The Contractor shall include in the plan the details of environmental monitoring requirements under the laws and regulations and a description of how this monitoring will be accomplished.

### PART 2 PRODUCTS (Not Applicable)

### PART 3 EXECUTION

#### 3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

##### 3.1.1 Tree Protection

No ropes, cables, or guys shall be fastened to or attached to any tree(s) for anchorage unless specifically authorized by the Contracting Officer. Where such special use is permitted, the Contractor shall provide effective protection to prevent damage to the tree and other land and vegetative resources. Unless specifically authorized by the Contracting Officer, no construction equipment or materials shall be placed or used within the drip line of trees shown on the drawings to be saved. No excavation or fill shall be permitted within the drip line of trees to be saved except as shown on the drawings.

### 3.1.2 U.S. Department of Agriculture (USDA) Quarantined Considerations

The Contractor shall thoroughly clean all construction equipment at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present. The Contractor shall consult with the USDA Plant Protection and Quarantine (USDA - PPQ) jurisdictional office for additional cleaning requirements that may be necessary.

### 3.1.3 Disposal of Solid Wastes

Solid waste is rubbish, debris, waste materials, garbage, and other discarded solid materials (excluding clearing debris and hazardous waste as defined in following paragraphs). Solid waste shall be placed in containers and disposed on a regular schedule. All handling and disposal shall be conducted in such a way as to prevent spillage and contamination.

The Contractor shall transport all solid waste off Government property and dispose in compliance with Federal, State, and local requirements.

### 3.1.4 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are wastes as defined in 40 CFR 261, and as defined by applicable State and local regulations. Hazardous waste generated by construction activities shall be removed from the work area and be disposed in compliance with Federal, State, and local requirements. The Contractor shall segregate hazardous waste from other materials and wastes, and shall protect it from the weather by placing it in a safe covered location; precautionary measures against accidental spillage such as berming or other appropriate measures shall be taken. Hazardous waste shall be removed from Government property within 60 days. Hazardous waste shall not be dumped onto the ground, into storm sewers or open water courses, or into the sanitary sewer system.

### 3.1.5 Fuels and Lubricants

Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants and waste oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with Federal, State, and local laws and regulations.

## 3.2 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

### 3.2.1 Known Historic, Archaeological, and Cultural Resources

Known historic, archaeological, and cultural resources within the Contractor's work area are marked on the contract drawings. The Contractor shall install protection for these resources as shown on the drawings and shall be responsible for their preservation during the contract.

### 3.2.2 Discovered Historic, Archaeological, and Cultural Resources

If during construction activities, items are observed that may have historic or archaeological value (e.g., Native American human remains or

associated objects are discovered), such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall prevent his employees from trespassing on, removing, or otherwise disturbing such resources.

### 3.3 PROTECTION OF WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

#### 3.3.1 Wastewater

Wastewater directly derived from operation, and construction activities shall not be discharged before being treated to remove pollutants. Wastewater shall be collected and placed in retention ponds as shown on the drawings so the water can evaporate in order to separate the pollutants from the water. See paragraph SETTLING POND REMOVAL for disposal procedures.

#### 3.3.2 Monitoring of Water Areas Affected by Construction Activities

The Contractor shall perform discharge monitoring, inspections, stormwater sampling and testing, reporting, and record keeping as set forth in the permit conditions which are attached to this section.

### 3.4 PROTECTION OF AIR RESOURCES

Special management techniques as set out below shall be implemented to control air pollution by the construction activities. These techniques supplement the requirements of Federal, State, and local laws and regulations; and the safety requirements under this Contract. If any of the following techniques conflict with the requirements of Federal, State, or local laws or regulations, or safety requirements under this contract, then those requirements shall be followed in lieu of the following.

#### 3.4.1 Particulates

Airborne particulates, including dust particles, from construction activities and processing and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, borrow areas, and all other work areas free from airborne dust which would cause a hazard or nuisance.

### 3.5 INSPECTION

If the Contracting Officer notifies the Contractor in writing of any observed noncompliance with contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall inform the Contracting Officer of proposed corrective action and take such action to

correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action is taken. No time extensions will be granted or costs or damages allowed to the Contractor for any such suspension.

### 3.6 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed pollution control facilities and portable pollution control devices for the duration of the Contract or for the length of time construction activities create the particular pollutant.

### 3.7 TRAINING OF CONTRACTOR PERSONNEL

Contractor personnel shall be trained in environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel monthly.

The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities (vegetative covers, etc.), and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants, shall also be discussed. Other items to be discussed shall include recognition and protection of archaeological sites and artifacts.

-- End of Section --

## SECTION 01451

CONTRACTOR QUALITY CONTROL  
04/97

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(1999b) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(1998a) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

## 1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

## PART 2 PRODUCTS (Not Applicable)

## PART 3 EXECUTION

## 3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable

to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

### 3.2 QUALITY CONTROL PLAN

The Contractor shall furnish for review by the Government, not later than 20 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

#### 3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)

- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

### 3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

### 3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

### 3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

### 3.4 QUALITY CONTROL ORGANIZATION

#### 3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall receive direction and authority from the CQC System Manager and shall serve as a member of the CQC staff. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, show drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

#### 3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a construction person with a minimum of 5 years in related work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may not have other duties. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

#### 3.4.3 Additional Requirement

In addition to the above experience and/or education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". If the Contractor needs this training, it will be provided by Government personnel after award of a contract.

#### 3.4.4 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

### 3.5 SUBMITTALS

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements.

### 3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

#### 3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

### 3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

### 3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

### 3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

## 3.7 TESTS

### 3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

### 3.7.2 Testing Laboratories

#### 3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing

procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

#### 3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$3,500 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

#### 3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

#### 3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

For delivery by mail:

USACE Research and Development Center  
ATTN: Joe Tom, CEERD-SC-E  
3909 Halls Ferry Road  
Vicksburg, MS 39180-6199

For other deliveries: Same as above.

Coordination for each specific test, exact delivery location, and dates will be made through the Area Office.

### 3.8 COMPLETION INSPECTION

#### 3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected.

Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

### 3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

### 3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

### 3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List

of deficiencies noted, along with corrective action.

- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Offsite surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

### 3.10 SAMPLE FORMS

Sample forms enclosed at the end of this section.

### 3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

### 3.12 IMPLEMENTATION OF GOVERNMENT RESIDENT MANAGEMENT SYSTEM FOR CONTRACTOR

## QUALITY CONTROL OF CONTRACT

## 3.12.1 Government-Furnished CQC Programming Module

The Contractor shall utilize a Government-furnished CQC Programming Module Win 98 minimum PC equal. Note: A Hewlett-Packard LaserJet 4 printer (or better) is required to print the reports from this program. The Module includes a Daily CQC Reporting System form which must also be used. This form may be in addition to other Contractor desired reporting forms. However, all other such reporting forms shall be consolidated into this one Government-specified Daily CQC Report Form. The Contractor will also be required to complete Government-Furnished Module elements which include, but are not limited to, Prime Contractor staffing; letter-codes; planned cumulative progress earnings; subcontractor information showing trade, name, address, point of contact, and insurance expiration dates; definable features of work; pay activity and activity information; required Quality Control tests tied to individual activities; planned User Schooling tied to specific specification paragraphs and contractor activities; Installed Property Listing; Transfer Property Listing; and submittal information relating to specification section, description, activity number, review period and expected procurement period. The sum of all activity values shall equal the contract amount, and all Bid Items, Options and Additives (if applicable) shall be separately identified, in accordance with the "Bid Schedule". Bid Items may include multiple activities, but activities may only be assigned to one such Bid Item. This Module shall be completed to the satisfaction of the Contracting Officer prior to any contract payment (except for Bonds, Insurance and/or Mobilization, as approved by the Contracting Officer) and shall be updated as required.

## 3.12.2 Quality Assurance Comments

During the course of the contract, the Contractor will receive various Quality Assurance comments from the Government that will reflect corrections needed to Contractor activities or reflect outstanding or future items needing the attention of the Contractor. The Contractor will acknowledge receipt of these comments by specific number reference on his Daily CQC Report, and will also reflect on his Daily CQC Report when these items are specifically completed or corrected to permit Government verification.

## 3.12.3 Contractor's Scheduling System

The Contractor's scheduling system shall include, as specific and separate activities, all Preparatory Phase Meetings (inspections); all O&M Manuals; and all Test Plans of electrical and mechanical equipment or systems that require validation testing or instructions to Government representatives.

## SECTION 02100

## CONSTRUCTION, GENERAL

## PART 1 GENERAL

The work covered in this section is outlined as a statement of work requirements common to all the work and the locations and items of work involved. Specific requirements for materials, processes, performance, quality and installation are provided under the technical sections of these specifications. The Government reserves the right to inspect the Contractors work at any time, whether the work is performed in the field or at the Contractor's shop. The contractor shall submit a complete repair and painting schedule for all work covered in this contract.

## 1.1 Service, Emergency and Low Flow Gates.

The control tower contains two (2) service gates and two (2) emergency gates located in the gate slots. Each gate is made of welded and cast steel. Each service and emergency gate weighs approximately 62,000 pounds. Each service gate has a 2' X 2' low flow gate contained within the gate and located just below the horizontal centerline of the gate leaf. The gates are operated by the hydraulic system located within the control tower.

## 1.1.1 Overview of Work.

The following information is offered as a general overview of the work required on the four flood control gates. Not all details are listed here. Detailed information for all work is contained throughout the specification.

## A. SERVICE GATE #1

NOTE: This gate will be the **FIRST** gate that the contractor repairs. This gate shall be fully operational before work is started on another gate. Service gate #1 is identified as the gate installed in the left gate slot when looking downstream. Each service gate is located downstream of the emergency gate. At this time, there is no preference on the part of the Corps of Engineers as to the order of work on the remaining three gates. However, site conditions or pool elevations may determine which gate would be repaired after Service Gate #1 and for the remaining gates as well.

**PART 1**

In a previous contract (during 2000-2002), the following work was performed on Service Gate #1:

1. Gate was removed from slot for painting.
2. Cracked welds were repaired in the structural steel section of the gate.
3. Additional welds were added (mostly in axle pockets of gate) in the structural steel section of the gate.
4. Cracks in the cast steel section of the gate were not repaired.
5. All axles were removed from the gate except the two lower axles (one on each side) located in the cast section of the gate. These two axles were apparently stuck in their holes due to corrosion.
6. The air seal, seal holder and seal clamp bars were not removed from the gate, but were left in place and protected from blast media and paint.
7. The entire gate and sub-assemblies were blasted and painted with vinyl paint.
8. A new hydraulic cylinder for the low flow gate was fabricated and installed.
9. Gate was reassembled and installed in the gate slot. Operation of gate (hydraulic system), air seal and grease system was verified. All systems operated as required.

NOTE: No work was performed on the remaining gates during the 2000 – 2002 contract.

The following work on Service Gate #1 will be required in this contract:

## **PART 2**

1. Remove gate from slot. This requires removal of hydraulic cylinder and bonnet from floor in control tower.
2. Remove both existing forged half couplings located on top of gate. The gate stems are threaded into these couplings. Fabricate and install new couplings. See sheet S1.21 for location of forged steel half coupling on top of gate.
3. Remove lower cast steel section (Mark number 117 on record drawings) of gate by government approved method. Contractor shall submit plan for removal, the government will approve/reject the plan. Contractor shall give special consideration and note in submittal as to how to work around the air seal, seal holder and seal clamp bars during removal of cast steel section and installation of new welded section. The two existing axles currently installed on each side of the cast steel section shall be removed from their current location and reused in the newly fabricated structural section.
4. Fabricate new lower section from welded structural steel shapes per plans and specifications. Perform inspection of all welds made during fabrication of new lower section.
5. Machine new axle holes in newly fabricated lower section, as required.
6. Locate, drill and tap new bolt holes in new lower section for mounting adjusting plates for adjusting and locking axle into fixed position.
7. Machine new seal bar surface on bottom of newly fabricated lower section.
8. Abrasive blast newly fabricated lower section, both axles and areas where new half couplings were installed (welded). Protect existing vinyl paint and sub-assemblies

(wheel seals, air seal, etc.) as required during blasting operation. Apply vinyl paint to new lower section and couplings and blend paint to existing vinyl paint on gate structure.

**NOTE: When applying vinyl paint to stainless steel surfaces, the primer coat is not used.**

9. Install both lower axles and check alignment. There are four other axles that need to be adjusted in order to bring all axles into alignment. Contractor shall adjust these axles as well.
10. Reassemble remainder of gate as required and install in gate slot in tower.
11. Disassemble hydraulic cylinder, provide and install new piston rings and packing on topside of piston. Provide and install new o-rings between cylinder flanges and upper and lower (base or bonnet) cylinder heads. Provide and install new oil and water packing for gate stem and new water packing for gage stems. Torque all fasteners to proper specifications.
12. Perform operational test as required in specifications.

#### B. SERVICE GATE #2

1. Remove gate from slot for painting. This requires removal of hydraulic cylinder and bonnet from floor in control tower.
2. Provide and install new hydraulic cylinder for low flow gate.
3. Remove both existing forged couplings located on top of gate. The gage stems are threaded into these couplings. In a recent failure of the right (when looking downstream, the coupling/stem on the right side of the gate) gage stem, a special length stainless steel coupling was welded onto the top of the existing coupling and the gage stem was re-installed. For work in this contract, the stainless steel coupling will be retained, however the existing weld between the stainless coupling and the original coupling will be removed and a new weld installed. For the other side, the existing coupling will be removed and a new coupling will be fabricated and installed (welded).
4. Remove wheels and axles.
5. Protect or remove air seal, seal holder and seal clamp bars from weld repair, blast media and vinyl paint.
6. Perform spot blasting of all welded areas and joints (structural and cast steel members).
7. Perform inspection of existing welds and submit report.
8. Make repairs to structural steel section of gate as directed by Corps of Engineers.
9. Corps of Engineers will assess the condition of the cast steel section (based on weld inspection report) and make a decision to either have contractor repair existing cracks (in cast section) by weld repair or remove the entire lower cast steel section and fabricate and install new welded structural section. Additional machining will be required if a new lower section is installed (see spec for details).
10. Abrasive blast entire gate and assemblies, as required.
11. Apply vinyl paint to entire gate and assemblies per specification.
12. Reassemble gate, check wheel alignment and adjust as necessary.
13. Reassemble remainder of gate as required and install in gate slot in tower.

14. Disassemble hydraulic cylinder, provide and install new piston rings and packing on topside of piston. Provide and install new o-rings between cylinder flanges and upper and lower (base or bonnet) cylinder heads. Provide and install new oil and water packing for gate stem and new water packing for gage stems. Torque all fasteners to proper specifications.
15. Perform operational test as required in specifications.

#### C. EMERGENCY GATES #1 AND #2

1. Remove gate from slot for painting. This requires removal of hydraulic cylinder and bonnet from floor in control tower.
2. Remove existing forged half coupling (one per emergency gate) located on top of each gate. The gage stem is threaded into this coupling. Fabricate and install new half coupling for each gate.
3. Remove wheels and axles.
4. Protect or remove air seal, seal holder and seal clamp bars from weld repair, blast media and vinyl paint.
5. Perform spot blasting of all welded areas and joints (structural and cast steel members).
6. Perform inspection of existing welds and submit report.
7. Make repairs to structural steel section of gate as directed by Corps of Engineers.
8. Corps of Engineers will assess the condition of the cast steel section (based on weld inspection report) and make a decision to either have contractor repair existing cracks (in cast section) by weld repair or remove the entire lower cast steel section and fabricate and install new welded structural section. Additional machining will be required if a new lower section is installed (see spec for details).
9. If the existing cast steel section is retained, the lower seal bar, on each emergency gate, will require repair by welding followed by machining to re-establish a flat, planar sealing surface.
10. Abrasive blast entire gate and assemblies, as required.
11. Apply vinyl paint to entire gate and assemblies per specification.
12. Reassemble gate, check wheel alignment and adjust as necessary.
13. Reassemble remainder of gate as required and install in gate slot in tower.
14. Perform operational test as required in specifications.

##### 1.1.2 Removal of Gates.

The service and emergency gates must be removed from their respective gate slots within the control tower in order to make repairs. Removal will require, but not be limited to; disconnection of the gate stem from the gate leaf, retraction of the stem into the hydraulic cylinder, disconnection of hydraulic oil lines, removal of the cylinder and support, removal of piping for air and grease systems, removal of gage stems, indicator, guides and supports, exterior (tower deck) and interior hatch covers and miscellaneous equipment as required. **All disassembled items shall be match marked to assure proper reassembly.** All oil, grease and air pipe connectors, including cylinder oil ports, shall be plugged or

capped to assure that no contamination enters the system. A portable crane will be required for work in this contract. Work requiring a crane includes but is not limited to the following; placement of stoplogs, removal and placement of hatch covers, removal and placement of hydraulic cylinders and gates, etc. Contractor shall provide crane of adequate capacity for work in this contract and all support equipment and personnel for work in this contract. Contractor shall provide crane certification and operator training documentation to the Government for review (for information only). Should the information show that the crane or operator may not be suitable or qualified for this work, the Government may request a change of equipment and or operator. **NOTE: THE TOWER BRIDGE HAS A CAPACITY LIMIT OF 106 TONS. CONTRACTOR SHALL NOTIFY THE GOVERNMENT OF ANY COMBINED LOAD (CRANE, SUPPORT EQUIPMENT AND GATE) AT OR ABOVE THIS LOAD LIMIT.**

**Contractor shall notify the appropriate Resident Office, five (5) working days prior to the anticipated removal or re-installation of each gate.**

#### 1.1.3 Lifting Lugs.

The Government will provide two (2) lifting lugs, attachment bolts (high strength) and two (2) shackles for lifting the gates. Originally, an eye bolt was used to lift the gate. The eye bolt will not be available for use during work in this contract. The lifting lugs, attachment bolts and shackles shall remain on Government property at all times, unless other arrangements are made with the Operations Manager at Perry Lake. The above mentioned equipment shall be returned to the Government upon completion of gate installation. The contractor shall provide all other rigging and safety devices necessary for lifting the gates to or from their slots.

#### 1.1.4 Disassembly of Gate.

Each gate shall be sufficiently disassembled\* for abrasive blasting and painting in order to provide complete coverage of steel surfaces with vinyl paint. Components to be removed include but are not limited to; guide shoe brackets, guide shoes (including shims), grease lines and grease distribution equipment, hydraulic lines and piping, low flow gate leaf and hydraulic cylinder, anodes, gate wheels, wheel covers, axles (wheel shafts), etc. A cap or plug shall be installed on the end of each pipe nipple or port in order to keep abrasive blasting media out of the grease port of the axles. The remaining "exposed" surfaces on each axle shall be abrasive blasted and painted. All machined surfaces on all axles shall be protected from abrasive blast media, cleaned properly and then masked off before application of vinyl paint. **The contractor shall submit for approval, his proposed plan for removal, and upon completion of painting, the re-installation of axles.** The plan shall address the method proposed for removal of the axles, the equipment to be used and describe or show by sketch how the equipment will be set up for removal and re-installation of the axles. The contractor shall take into consideration loading on structural members of the gate and threaded holes such as found in axles when applying force for removal or re-installation of the axles. Prior to removal of axles, the contractor shall thoroughly inspect the structural members for distortion and corresponding welds for cracks. Structural members of the gate shall not be deformed and existing welds shall not be overloaded to the

point of cracking during removal of the axles. Contractor shall provide additional temporary re-enforcement as required so as not to overload any portion of the gate during axle removal or installation.

NOTE: Service Gate #1 will require complete removal of the lower cast steel section and replacement with a welded structural section. **The contractor shall submit to the Government (for information only) to what extent the air seals, seal holder and seal clamp bars will be removed or protected during work on each gate.** Any damage to the gates or any components shall be the responsibility of the contractor (including all repair and replacement costs).

\* Disassembly of Service Gate #1 will vary from what is outlined here. Contractor need only disassemble Service Gate #1 to the extent necessary for repair.

#### 1.1.4.1 Match Marking and Wheel Alignment.

Each wheel shaft (axle) and associated wheel shall be match marked to assure proper re-assembly. The existing position of each axle and its corresponding adjusting plate, for all gate wheels, shall be marked (i.e. punch marks) so that relative wheel alignment can be maintained when gate is re-assembled.

**NOTE: It is highly recommended that the contractor check alignment of the wheels (for equal bearing) for each side of the gate before removing the wheels from their respective axle. Contractor should then check alignment of axles (per each side) once all wheels have been removed. This can be achieved by use of a plumb line and feeler gage. Contractor should also establish a reference plane(s) between each set of axles and the theoretical plane cutting through the center of each axle hole in the gate leaf. Ideally, there would be two planes, one cutting through the centers of all holes bored in the gate structure (Plane #1) and a separate plane (Plane #2) which consists of all the points of contact on the outside diameter of each wheel. Plane #1 and #2 should be parallel with each other in order to achieve equal bearing (loading) for all of the wheels.** As required, the Contractor shall make all necessary adjustments to the axles and adjusting plates to achieve proper wheel alignment and ensure each gate can traverse its respective gate slot with the required clearance. THE OUTSIDE DIAMETER FOR ALL WHEELS ARE TO BE WITHIN 0.002" OF THE PLUMB LINE (IN PLANE) AS DETERMINED BY WHEELS ON EACH END OF GATE.

#### 1.1.4.2 Bearing/Bushing Inspection

Contractor shall inspect all bushings (noted as "bearing" on sheets S1.27 and S1.28) for wear for Service Gate #2 and both emergency gates. Inspection techniques will include visual and measurement by micrometer. Two (2) inside micrometer readings will be taken and recorded on a data sheet for each bushing, each approximately 2" from each end of the bushing. Abnormal conditions (wear, etc.) noticed during visual inspection shall be recorded on the data sheet as well. Data sheets to be filled out are contained at the end of this section. Completed data sheets shall be submitted to the Government for approval.

#### 1.1.5 Welding, Machining and Other Repairs.

#### 1.1.5.1 Repair to Structural Steel.

Due to the environment in which the gates are located, they experience corrosion, erosion, possible cavitation damage and other harmful effects. For example, if severe corrosion has occurred at a welded joint in the gate leaf, removal of the corroded material by grinding (or other suitable means) followed by weld repair to the joint may be required. Cracking of welded joints in the various structural members of the gate may also be present. In some instances, welds may be missing from original construction (most likely in pockets where axles are located). Also, some of the original welds may be deficient and require removal and new weld material deposited. A recently repaired gate (Service Gate #1) had about 30 locations with about 30 cubic inches of weld metal deposited in order to make repairs. The actual amount of weld repair required for all of the gates is unknown and is estimated in the bid schedule. Repairs to the structural steel members of the gates will be performed by exercising Option 3 in the **OPTION BID SCHEDULE**.

#### 1.1.5.2 Repair to Cast Steel.

Repairs to the cast steel section of each gate (if this mode of repair is selected by the Corps of Engineers) will be performed by exercising Option 4 in the **OPTION BID SCHEDULE**. Inspection of Service Gate #1 showed it to have about 20 locations with about 20 cubic inches of material that needed to be deposited **IF REPAIR OF THE CAST PORTION OF THE GATE HAD BEEN ACCOMPLISHED BY WELD REPAIR**. The actual amount of weld repair required for all of the gates is unknown and is estimated in the bid schedule.

#### 1.1.5.3 Inspection of Welds.

For weld inspection purposes, the Contractor shall perform localized abrasive blasting in all weld areas and any area where severe corrosion or erosion is observed. Localized blasting area shall include the full weld or suspect "area" and a minimum over-blast band 1" wide on each side of each weld and a 1" band for the perimeter for all "areas". No separate payment will be made for localized blasting or re-blasting of the gate structure due to inspection of the gates by the certified welding inspector or Government representative(s). The Contractor shall use a Certified Welding Inspector (CWI) to assess the condition of the structural and cast members and welds of each gate. Contractor shall submit a report (3 copies) of the inspection performed by the CWI to the Government **"FOR APPROVAL"**. The Government will make a site visit to observe the condition of each gate structure and welds after reviewing the inspection report. Contractor shall allow 3 working days for inspection by the Government (work area within 275 mile radius of downtown Kansas City, Missouri). If work area (Contractor's shop) is greater than 275 miles from Downtown Kansas City, Missouri, time required for inspection by the Government may be up to 5 full working days. For all areas, where in the opinion of the Government, weld repairs are required, they shall be performed in accordance with **SECTIONS: 05055 WELDING, STRUCTURAL and 05101 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS**.

#### 1.1.5.4 Welding Inspector Qualifications.

The contractor shall use a Certified Welding Inspector (CWI), certified in accordance with ASNT-01 for level I or II, for a complete inspection of ALL WELDS (this includes welds made during fabrication of new lower section(s), if new lower section(s) are required). Inspection shall be performed to the standards of the current edition of AWS D1.1, Structural Welding Code – Steel. The CWI shall visually inspect the welds (as noted throughout the specification) and supplement with dye penetrant, fluorescent or magnetic particle inspection, any welds that require additional inspection, if necessary. The CWI shall prepare a DETAILED report of his inspection, identifying all deficiencies. Based on the visual inspection performed by Corps representatives on 19 June 2000 of service gate #1, many of the welds appear to have some or all of the following deficiencies; porosity, lack of fusion, undersized, contour, undercutting, etc. The contractor shall submit 3 copies of the report prepared by the CWI to the Government for approval.

#### 1.1.5.5 Repair of Upstream and Horizontal Seal Surface on Emergency Gates.

The following work will be performed if the existing casting (lower portion of each emergency gate) is retained:

Both emergency gates have experienced corrosion and/or erosion of the horizontal seal surface and the upstream leading edge (See sheet S1.37). This portion of each emergency gate is a steel casting (which has been welded to the structural steel members). The repairs in this area extend from the lower horizontal surface, up the face (upstream side of gate) of the gate about 1 ½ to 2 inches maximum and the full width (about 13 feet). The eroded areas shall be filled with weld metal (SEE OPTION 4 IN BID SCHEDULE) and the surface ground back to the original contour. The surface finish in this area (upstream curved or sloped surface) shall be 250 RMS or better. Hand held grinders or other suitable finishing tools could be used to finish this surface. The repairs needed on the horizontal seal surface (surface on gate which contacts the embedded babbitt sill plate) include welding and then grinding or machining. The majority of the damaged areas on the horizontal seal surface of the emergency gates are located towards each end of the seal (i.e. where the gate and gate slot form a corner). The volume of material missing at each corner is estimated at 1 to 2 cubic inches (4 cubic inches (estimated) per emergency gate per seal bar area). However, there is additional damage across the seal surface as well. The contractor shall repair the seal surface (SEE OPTION 5 IN BID SCHEDULE) on each emergency gate by welding, followed by machining (likely a milling or grinding process) of the seal surface (SEE OPTION 6 IN BID SCHEDULE). Weld repairs for Options 4 and 5 are essentially the same and only broken out in the bid schedule to show the amount of repair in the seal bar areas.

**NOTE:** If the Contractor can hold dimensional tolerance, surface roughness, waviness and lay in the "repaired area", the seal bar can be machined in the repaired area and/or the area immediately surrounding the repaired area only (repaired area must blend into existing seal bar geometry and shall not leak in the repaired area or at the transition to the existing seal bar surface). The Contractor has the option of making a precision finish cut (most likely by a machining process) along the entire length of the seal bar surface in order to achieve a suitable seal surface. The Contractor will be allowed a maximum cut of 0.015" deep (across the entire width of the bottom of the gate) in order to achieve the seal

surface. **The Contractor shall submit for approval the proposed method of repairing and machining the seal surface** (partial machining with blending (could be performed with hand tools if surface profile can be maintained) or a total cut along the length of the seal bar). A surface finish of 63 RMS or better is required for the repaired seal surface. A submittal, for approval by the Government, is required for work on the horizontal seal bar area. Regardless of the method chosen by the Contractor, submittal shall give sufficient detail so that a determination can be made as to the adequacy of the Contractor's plan for repair. See sections 05055 WELDING, STRUCTURAL and 05101 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

If the existing cast steel section is removed, a new lower section fabricated from structural steel, will be installed by the contractor. That work includes machining of a new seal bar surface and options 5 and 6 will not be needed for that particular gate.

#### 1.1.5.6 Fabrication of a New Lower Section (Replacement of Existing Cast Steel Section).

Depending on the condition of the lower cast steel section of service gate #2 and both emergency gates, the existing cast steel section may be removed and replaced with one fabricated from structural shapes cut from plate. OPTIONS 1 and 2 in the OPTIONS BID SCHEDULE will be exercised if a new lower section is to be fabricated and installed. If a new lower section is installed, all critical dimensions shall be maintained for height, width, depth, fit-up, axle alignment (boring of new holes for lower axles), tolerances, etc. for the repaired gate. See sections 05055 WELDING, STRUCTURAL and 05101 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS for criteria for replacement by structural plate.

#### 1.1.5.7 Structural Steel Plate for Fabrication of New Lower Gate Section.

The contractor shall purchase enough raw material for fabrication of two complete lower sections (replacement of existing cast steel section). This is listed in the Base Bid Schedule. An Optional Bid Item (OPTION 1) will be the purchase of enough additional raw material to replace one additional lower cast section. This Option Item may be exercised twice.

Part numbers one through nine as shown in the contract drawings, will replace the steel gate leaf casting.

Part numbers one through nine shall consist of material that complies with the criteria and standards outlined in paragraphs one through five below. These requirements shall be specified on the material purchase order. A record copy of the Charpy V-Notch and ASTM A 770 test results shall be furnished to the Corps of Engineers for approval for each heat of material used in this contract.

1. Material shall meet ASTM A 572 *Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel* for Grade 50 steel.
2. The end diaphragms and skin plate material (part numbers one and two) shall comply with the procedures and acceptance standards prescribed in ASTM A 770 *Standard Specification for Through-Thickness Tension Testing of Steel Plates for Special Applications*.
3. The end diaphragm material (part number one) shall be supplied with Charpy V-Notch testing in

accordance with ASTM A6, Supplementary Requirement S5, Frequency P. The minimum toughness value shall be 30 ft-lb at 70 degrees Fahrenheit. Testing at lower temperature is permitted.

4. The skin plate material (part number 2) shall be supplied with Charpy V-Notch testing in accordance with ASTM A6, Supplementary Requirement S5, Frequency P. The minimum toughness value shall be 25 ft-lb at 70 degrees Fahrenheit. Testing at a lower temperature is permitted.
5. The WT18X150 material (part number six) shall be supplied with Charpy- V-Notch testing in accordance with ASTM A6, Supplementary Requirement S30, Frequency P. The minimum toughness value shall be 25 ft-lb at 70 degrees Fahrenheit. Testing at a lower temperature is permitted.

#### 1.1.5.8 New Stainless Steel Couplings for Gage Stems.

The existing forged steel couplings for attaching the gage stems shall be removed and replaced with newly fabricated couplings made from cast stainless steel. See this section, 1.1.1 Overview of Work and SECTION 05101 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS for details.

#### 1.1.5.9 Precision Alignment and Fit for Replacement Components.

For all work performed on the gates, the contractor shall be responsible for proper fit-up of components, attaining proper alignment of items such as axle mounting holes (concentricity, parallelism and perpendicularity as required), parallelism and perpendicularity of sill bar and pneumatic seal assembly, locating (boring or drilling) new bolt holes for wheel adjustment plates if the cast steel section is replaced with a new structural section and so on in order to provide a fully functional gate(s). When boring new axle holes in a newly fabricated lower section, the centerline for the bores shall be within 0.007" of the centerline of all other existing hole centerlines (on plane) for that side of the gate. The relative spacing between the centerlines of the bottom axle hole and the one immediately above it shall be maintained (within 0.010"). It is recommended that the contractor take precision measurements of all sealing surfaces and critical areas for each gate prior to start of any work. The over all height of each gate shall be maintained (to within 1/16") in order to assure the gate will function as originally designed.

### 1.2 Repairs to Hydraulic System.

Contractor shall cap all disassembled hydraulic lines, valves, etc. to prevent leakage of fluid and to keep contaminants from entering the hydraulic system. Rags, cloths, etc. are unsuited for use as caps. Buckets shall be strategically placed under pipe joints, unions, valves, etc. to catch any fluids during disassembly.

Waste fluids shall not be reused and shall be properly disposed of. See drawings for location and description of consumable materials.

The entire hydraulic system will be checked for leaks by the Government after the gates are installed in

their normal operating position. Any leaks found will be repaired by the Contractor at his expense. The Contractor has the option of leak testing individual components before installing them in their normal operating position. No additional payment will be made for leak testing performed by the Contractor.

#### 1.2.1 Disassembly of Components - Replacement of Packing, O-rings, Seals, Gaskets, etc.

As the gates, bonnets, stems, etc. are disassembled for repair and painting, various o-rings, packing rings and gaskets will require removal. All o-rings, packing rings, seals and gaskets removed will be replaced with new when the gates and cylinders are reassembled and installed into their normal location. All mating surfaces that require the use of o-rings, packing rings, seals or gaskets, shall be cleaned and properly prepared to ensure a leakproof seal upon reassembly. Contractor shall provide and install the proper type of sealant to seals and gaskets if required by that type of joint. At a minimum, the following items shall be replaced with new during execution of work in this contract (see Parts Lists, sheet S1.18 for description and quantity):

1. Item 189 - gasket (contractor to supply a quantity of 16, Government will furnish remainder),
2. Item 191 - gasket, (contractor to supply a quantity of 8)
3. Item 244 - V-ring packing, (contractor to supply a quantity of 6 sets)
4. Item 247 - rubber gasket, (contractor to supply a quantity of 4)
5. Item 249 - O-ring (contractor to supply a quantity of 6)
6. Item 252 - V-ring packing for piston (contractor to supply a quantity of 2 sets)
7. Item 255 - gasket seal, (Government will provide this item in total)
8. Item 256 - gasket seal. (Government will provide this item in total)

**NOTE: Other materials may require replacement but are not listed above.**

#### 1.2.2 New Hydraulic Cylinder for Low Flow Gate for Service Gate #2.

Contractor shall provide and install a new hydraulic cylinder for the low flow gate contained within service gate #2. It is recommended that the existing cylinder be used as a template when manufacturing the new cylinder. Contractor shall provide as-built drawing (three copies) of the new cylinder for the low flow gate. This will ensure a proper fit between the cylinder and the service gate as well as the exact location for inlet and outlet ports. Following is a description from the original specification for this cylinder:

Cylinder shall have a front flange mount, a four (4) inch bore with a 24-inch power stroke in either direction and be approved to 1,500 p.s.i. working pressure. The stems of the cylinder shall be of nickel-copper alloy conforming to Federal Specification QQ-N-281a, for "Nickel-Copper Alloy (Monel and R-Monel) Bars, Plates, Rods, Sheets, Strips, Wire, Forgings and Structural and Special Shaped Sections," class B. (NOTE: contractor should use current, equivalent material specification (ASTM, SAE, etc.) in lieu of Federal Specification for stem material). See sheet S1.24 for low flow gate, cylinder and details.

### 1.2.3 Service Gate Hydraulic Cylinders.

#### 1.2.3.1 Disassembly, Reassembly, Inspection and Oil.

Both service gate hydraulic cylinders will require complete disassembly in order to replace the piston rings and V-ring packing. Contractor shall remove existing hydraulic oil from each cylinder into clean storage barrels or containers and reuse. Oil shall be filtered through a filtering machine when oil is returned to the cylinder(s). Contractor supplied filtering equipment shall be thoroughly cleaned before filtering any of the hydraulic fluid for the system at Perry Lake. A new, unused filter rated at 10 micron shall be used when filtering the oil. The cylinder bore, piston, piston rod and the interior of the upper and lower head shall be cleaned by the contractor to remove all debris, sludge, metal particles, etc. **Once all components have been thoroughly cleaned, the condition of the cylinder bore, existing piston rings, piston and V-ring packing will be noted in an inspection report written by the contractor and submitted to the government (for information only).** A representative from the Government will perform a visual inspection of all components once inspection report has been submitted and reviewed, to check cleanliness and condition of the components. It is assumed that the cylinder bore and piston will not require any maintenance and can be re-used immediately. The only consumable materials should be the piston rings, V-ring packing (topside of piston), gate stem oil and water packing and o-rings between each head and the cylinder flanges. Contractor shall bleed all air from hydraulic system upon return to service. See sheets S1.29, S1.30, S1.31, S1.32 and S1.36. All new components (piston rings, piston packing, gaskets, oil packing for stem, etc.) installed to rebuild the cylinder shall be installed per manufacturer's recommendations.

#### 1.2.3.2 New Piston Rings.

Contractor shall fabricate and install eight (8) new piston rings, four (4) each for each service gate hydraulic cylinder. Dimensions and tolerances for the new piston rings shall be in accordance with standard industry practices for components of this size and application. See sheets S1.29 and M1.1. **Contractor shall submit to the government (for information only), a drawing showing the finish dimensions (including end gap), tolerances and surface finishes for the new piston rings. Contractor shall submit to the government (for approval), the material certification for piston ring material. Piston ring material shall be aluminum-bronze , per ASTM B148, alloy UNS No. C95200 or C95300, centrifugally cast with Brinell Hardness (3000 kg load) in the range of 100 – 140. Other materials may be suitable for use but must be approved by the government.**

The end gap for each piston ring shall be staggered 90 degrees from the ring immediately above or below it.

A known supplier for rings of this type is:

Auto-Diesel Piston Ring Company  
Cleveland, Ohio

Phone #: 216-781-5200

Fax#: 216-781-5203

### 1.2.3.3 New V-Ring Packing.

Contractor shall provide and install new V-ring (5 rings stacked) packing that is located above the piston rings, on the top of each piston. V-ring packing shall be furnished with mica finish and shall be installed in accordance with the manufacturer's instructions. See sheet S1.29, piston details, section A and detail A, for location of 5 V-rings (part 252) on the top side of the piston. **(NOTE: V-rings are not shown on drawing, but only referenced)**

### 1.2.4 Hydraulic Cylinders for Emergency Gates.

The hydraulic cylinders that operate the left and right emergency gates have a leak at the upper cylinder head to cylinder flange seal area. The contractor shall remove each cylinder head, remove the existing o-ring, clean the mating seal surfaces, install a new o-ring and re-torque the head to the cylinder flange.

### 1.3 Painting.

All preparations and painting shall be performed in accordance with SECTION: 09965 PAINTING, HYDRAULIC STRUCTURES. System 5-E-Z shall be used for application of vinyl paint for the gates at Perry Lake. **The contractor shall submit for approval, his proposed plan for abrasive blasting and painting the service, emergency and low flow gates.** The plan shall address to what stage of disassembly or reassembly the gate will be for each phase of the work. **COMPONENTS WITH MACHINED OR POLISHED SURFACES SUCH AS WHEEL RIMS, BEARINGS, SHAFTS (AXLES), BRONZE WASHERS, GATE STEMS, ETC. SHALL BE PROTECTED FROM ABRASIVE BLASTING MEDIA AND SHALL NOT BE COVERED WITH PAINT.** With the exception of the machined area of each wheel shaft (and the corresponding mounting holes in the gate), all carbon steel items shall be blasted and painted separately in their entirety. All carbon steel components are to be painted with vinyl paint in this contract. When applying vinyl paint to stainless steel components like the newly installed coupling for the gate stems, the stainless steel shall be media blasted and then covered with vinyl paint WITHOUT any primer on the stainless.

#### 1.3.1 Test Results for Existing Paint.

- A. The gates were originally painted with vinyl paint on the upstream skin plate and coal tar epoxy on all downstream structural members. The Corps of Engineers hired an independent testing laboratory to analyze the chemical composition of the coal tar and vinyl paint. The certificate of analysis for the paints is included at the end of this section.
- B. Samples were prepared by both total digestion and TCLP methodologies and analyzed for the eight RCRA metals, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury Selenium and Silver. Results from the total analyses can be used by the contractor to identify and guide implementation of controls of potential occupational exposure and ensure compliance

- with OSHA standards, namely Lead 29 CFR 1926.62. TCLP results are used to evaluate appropriate disposal of generated wastes.
- C. The total analysis results (RCRA8) indicate that the coating contain several metals which pose occupational exposure issues during abrasive blasting. Due to the unique nature of this operation, a negative exposure assessment, in accordance with the OSHA lead standard is required, see 29 CFR 1926.62 (d). In addition, training covering the topics found in Appendix B of the Standard should also be performed.
  - D. This project would not be classified as a lead abatement project as per Title X, The Residential Lead Paint Hazard Reduction Act of 1992. Therefore associated training and certification requirements would not apply for the following reasons: 1) Coatings would not be considered to be LBP since lead content is below 0.5%; 2) The project is for routine maintenance purposes not abatement of lead hazards; and 3) The project does not have immediate affect on residential or commercial housing.
  - E. TCLP analysis indicates that although metals are present, they would not be leachable in a landfill environment. Blast media containing either coating would not be considered hazardous waste in accordance with RCRA hazardous waste regulations. However, it would be prudent that waste from the abrasive blast operation be considered an industrial waste and disposed in a licensed C&D landfill. Analytical results provided can be used to meet characterization requirements of the landfill. The contractor/COR will be required to coordinate with a landfill to ensure that adequate documentation and certification are provided for disposal.

#### 1.4 Bolts.

##### 1.4.1 Anchor Bolts.

Some of the anchor bolts that fasten the sill plates to the floor or bolts that act as a plug in the sill plates are missing. Contractor shall supply and install all bolts that are missing or broken. A suitable liquid thread locking compound shall be used when installing the new bolts. See sheets S1.18 and S.1.19 for bolt description. See 05502 METALS: MISCELLANEOUS, STANDARD ARTICLES, SHOP FABRICATED ITEMS for material specification for bolts. Should any bolts be broken off and remain in the threaded hole, Contractor shall remove broken bolts as well.

##### 1.4.2 Miscellaneous Bolts.

During the execution of this contract, the contractor shall provide and install any missing fasteners (bolts, nuts, washers, etc.) for the gates, wheels, grease distribution lines, anode mounting blocks, etc. The fasteners provided shall meet the technical requirements as noted on drawings sheets S1.1.7 and S1.18 or as noted in 05502 METALS: MISCELLANEOUS, STANDARD ARTICLES, SHOP FABRICATED ITEMS. The quantity of missing fasteners is expected to be minimal. In addition, all fasteners that are broken during disassembly of the gates, unsuitable for reuse, etc. shall be replaced with similar quality, size and type of fastener. Contractor shall provide (at contractor's expense) and install new fasteners for all broken or unusable fasteners. When necessary, contractor shall make all

repairs required for installation of new replacement fasteners. This shall include drilling, removal of seized fastener, re-tapping of threads (thread chasing), installation of thread insert (Heli-coil) if necessary, etc. Contractor shall use his own judgement as to the quantity of fasteners that may be broken during disassembly or unusable. All fastener replacement is incidental to performance of other work (blasting and painting of gates) and will not be a separate bid item.

## 1.5 Grease Lines and Distribution Boxes.

### 1.5.1 Grease Lines.

All broken grease lines shall be replaced by the contractor. Contractor will bid replacement of grease lines by the linear foot. It is anticipated that only a few lines will require replacement. There are no known broken lines on the service gates, only the emergency gates. Contractor shall provide and install the new grease lines. (see sheet S1.23).

### 1.5.2 Distribution Boxes.

An option is provided in the bid schedule (Option 7) for replacement of any malfunctioning distribution boxes. There are no known malfunctioning distribution boxes on the gates. If the option is exercised the contractor shall provide and install the new boxes. (see sheet S1.23).

## 1.6 Anode Replacement.

### 1.6.1 Gate Slot/Wheel Track Area.

Contractor shall remove and install new anodes for each gate wheel track (except for service gate #1, as this work has been accomplished). The contractor will provide the new anode material for installation in this contract. The length of anode to be replaced per gate slot (one side of gate only) is approximately 47 feet. This would equate to an approximate total of 282 linear feet of anode material (47 feet X 2 slots per gate X 3 gates = 282 feet of anode). The contractor will be responsible for ordering the actual amount of material as it depends on the number of sections used per slot and the length of extra material needed for grounding. NOTE: Extra length of anode is needed for each end of each segment to provide for grounding. **ALL RIBBON OR ROD ANODE SEGMENTS SHALL BE GROUNDED AT EACH (BOTH) END. ANODES SHALL NOT BE PAINTED. Contractor is responsible for providing and installing any missing anode clamps, new rubber sleeves, fasteners etc.** New anodes shall be provided and installed by the contractor per sheet S1.41. See section 05502 METALS: MISCELLANEOUS, STANDARD ARTICLES, SHOP FABRICATED ITEMS for anode specification.

### 1.6.2 Emergency Gates.

All existing anodes on the emergency gates shall be removed by the contractor prior to abrasive blasting. New anodes shall be provided and installed by the contractor per sheet S1.41 for both

emergency gates. The estimated length of anode material is 118 feet (does not include extra length for grounding). Contractor shall be responsible for determining amount of anode material required for emergency gates. **ALL RIBBON OR ROD ANODE SEGMENTS SHALL BE GROUNDED AT EACH (BOTH) END. ANODES SHALL NOT BE PAINTED. Contractor is responsible for providing and installing any missing anode clamps, new rubber sleeves, fasteners etc.** See section 05502 METALS: MISCELLANEOUS, STANDARD ARTICLES, SHOP FABRICATED ITEMS for anode specification.

#### 1.7 Babbitt Repair of Sill Plates.

The sill plate for each service and emergency gate (four sill plates total) has experienced erosion of the babbitt material in local areas. Typical erosion areas are in each corner of each sill plate, with approximately 1 to 2 cubic inches of babbitt material missing in each area. See sheet S1.19 for sill frame and Babbitt details. The contractor shall repair each sill plate by "puddling" new babbitt material into the eroded area and blending (by machining or suitable finishing method) the new babbitt material to the existing surface profile for each existing sill plate. The contractor will be allowed to repair the sill plates in the field with the sill plates bolted in place in the gate frame assembly, provided suitable field conditions can be obtained for the type of repair needed. The contractor will have the option of removing each sill plate and performing the work in his shop. In order to remove each sill plate, the lower section of wheel track on each side of the passageway will have to be removed (track is attached by bolted connections) as the bottom of the wheel track overhangs the sill and creates an interference problem.

A company that can perform the babbitt repair work with the sills in-place is:

United States Babbitt Bearing  
30 North Wind Drive  
Wright City, MO 63390

Point of Contact: Brian Van Leer  
Phone #: 314-456-5656  
Fax #: 314-456-5657

See 05101 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS for material specification for babbitt material.

#### 1.8 Replacement of Air Valves.

Contractor shall remove existing (quantity = 2) Wabco 4-way air valves. Contractor shall install new, Government supplied, air valves. Contractor shall supply and install all fittings, materials and miscellaneous items necessary for proper installation of valves. After installation, the operation of each valve shall be tested by the Government.

### 1.9 Reassembly and Installation.

All parts to be reinstalled that were not painted shall be thoroughly cleaned as required to provide a fully functioning system. Rust, dirt, grit and other foreign matter shall be removed. Holes and grooves for lubrication and all bushings or bearings shall be cleaned before reassembly. Bushings or bearings shall be pre-lubricated with appropriate grease or lubricant before assembly. Enclosed chambers or passages shall be examined to make sure that they are free from foreign materials. Pipe wrenches, cold chisels or other tools likely to cause damage to the surfaces of rods, nuts or other parts shall not be used for assembling and tightening parts. Bolts and screws shall be tightened firmly and uniformly but care shall be taken not to overstress the threads. When a half nut is used for locking a full nut the half nut shall be placed first and followed by the full nut. Threads of all bolts except high strength bolts, nuts and screws shall be lubricated with an approved lubricant before assembly. Threads of corrosion-resisting steel bolts and nuts shall be coated with an approved anti-galling compound. Driving and drifting bolts or keys will not be permitted.

Each machinery or structural unit shall be accurately aligned so that no binding in any moving parts or distortion of any member occurs during operation. The alignment of all parts with respect to each other shall be true within the respective tolerances required. Components shall be set true to the elevations shown on the drawings.

### 1.10 Operational Tests

After each gate and hydraulic system has been reassembled and installed into their normal location within the tower, each unit shall be operated through a sufficient number of complete cycles (minimum of 3 full cycles) to demonstrate to the satisfaction of the Contracting Officer's Representative that it meets the operational requirements in all respects. The hydraulic systems shall be checked for leaks and any leaks shall be repaired by the Contractor at the Contractor's expense.

### 1.11 Service Deck Hatch Covers.

The service deck hatch covers shall be re-installed into their normal location once all work in the tower is complete. The hatch covers will require special materials in order to make them leak proof. Contractor shall provide and install backer rod and sealant in order to seal hatches. All existing sealant shall be removed from the hatches and frames. The surfaces receiving sealant shall be cleaned to the sealant manufacturer's recommendations before new sealant is applied. The sealant shall be applied per manufacturer's recommendations. Hatches shall not receive a vehicle wheel load or other load following sealing unless approved by the Contracting Officer's Representative. After sufficient drying of the sealant, the Government may direct the Contractor to test for a proper seal by flooding the seal area with water. Any defects shall be repaired by the Contractor to ensure a complete and durable seal. This work is incidental to performance of other work (blasting and painting of gates) and will not be a separate bid item.

### 1.12 SUBMITTALS.

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. In accordance with SECTION: SPECIAL CLAUSES, the Contractor shall submit for approval the following items required by this section:

#### SD-04 Drawings

##### 1.12.1 Crane Information; GA (EC-DS)

Information shall include drawings or sketches showing how Contractor will place and operate portable crane. Drawings shall also include enough written detail to show that crane can safely handle the load. Information shall include size, placement, usage, bow swing, outrigger loads (maximum during pick-up and hoisting), location of outriggers on tower service deck and service bridge. Three copies shall be submitted. This information shall also include the crane and operator certification documentation.

**NOTE: THE TOWER BRIDGE HAS A CAPACITY LIMIT OF 106 TONS. CONTRACTOR SHALL NOTIFY THE GOVERNMENT OF ANY COMBINED LOAD (CRANE, SUPPORT EQUIPMENT AND GATE) AT OR ABOVE THIS LOAD LIMIT.**

##### 1.12.2 As-built Piston Ring Drawings; GA (EC-DS)

##### 1.12.3 As-built Drawings for Low Flow Hydraulic Cylinder; GA (EC-DS)

##### 1.12.4 Method of Repairing and Machining Seal Surface (If necessary); GA (EC-DS)

#### SD-08 Statements

##### 1.12.5 Proposed Methods of Operation; GA (EC-DS)

##### 1.12.6 Progress Charts; GA (EC-DS)

##### 1.12.7 Work and Outage Schedule; GA (EC-DS)

##### 1.12.8 Plan for Abrasive Blasting and Painting; GA (EC-DS)

##### 1.12.9 Plan for Removal/Re-installation of Axles; GA (EC-DS)

##### 1.12.10 Control Tower Access; GA (EC-DS)

##### 1.12.11 Method to Remove Cast Steel Section of Gate; GA (EC-DS)

##### 1.12.12 Protection of Seal Holder, Air Seal, Seal Bar Clamps for all Methods of Repair; GA (EC-DS)

##### 1.12.13 Inspection of Hydraulic Cylinder and Components for Cleanliness; GA (EC-DS)

##### 1.12.14 Method of Repairing and Machining Seal Surface; GA (EC-DS)

#### SD-09 Reports

##### 1.12.15 Certified Welding Inspector Report; GA (EC-DS)

##### 1.12.16 Bearing/Bushing Inspection Reports; GA (EC-DS)

#### SD-13 Certificates

##### 1.12.17 Material Certification for Piston Rings; GA (EC-DS)

## PART 2 PRODUCTS

### 2.1 ON-SITE.

The Contractor will be assigned working areas or working right-of-way limits for use in the prosecution of work under this contract, subject to the CONTRACT CLAUSES clause entitled "Operations and Storage Areas". Additionally, the contractor shall be required to operate in accordance with all Federal, State and local laws (specified herein or unspecified) with regard to all portions of the work.

### 2.2 OFF-SITE.

Abrasive blasting and painting of the gates will be accomplished off-site at the contractor's facility. The contractor shall be responsible for all transportation, permits, safety, escorts, etc. associated with transporting structures of this type, size and variety. Additionally, the contractor's facility will be required to be operated in accordance with all Federal, State and local laws (specified herein or unspecified) with regard to all portions of the work.

### 2.3 PROTECTION OF EXISTING FACILITIES AND WORKS.

The Contractor shall be responsible for the protection of the work area from damage and upon completion of the work shall leave existing works in a condition equal to that which existed when the work started. All work, storage of materials, and construction plant shall be kept within the limits of the areas assigned. The Contractor will be responsible for the protection of structures from any structural damage during repair and/or repainting operations. Roads, bridges, floors, structures and surfaces shall be protected from damage by the work or if damaged shall be repaired with equal materials. Equipment and structures shall be protected against stains. All stains shall be removed by the Contractor. At all times the plant and work areas shall be kept in a condition conducive to safety of workmen and the public and neat in appearance. Waste or surplus materials shall not be allowed to accumulate in the onsite work area. The Contractor shall also be responsible for the protection of all mechanical and electrical equipment from damage during repair operations.

#### 2.3.1 Debris Control and Removal.

Special measures shall be taken to minimize airborne dust, paint, thinners, blast products, etc. in all areas. Debris shall not be allowed to accumulate.

#### 2.3.2 Use of the Control Tower and Adjacent Areas.

The interior of the control tower and all areas adjacent to it will **not** be used for blasting and painting of the gates. This includes the parking area, tower bridge, etc. All items included in the General Scope above shall be performed away from the control tower with the exception of loading, unloading and transportation of the gates and repair of sill plates (babbitt repair).

### 2.3.3 Designated Government Work Area.

The Government DOES NOT have a work area for use by the Contractor for work under this contract. The Contractor shall perform all blasting and painting off of Government property.

## 2.4 CARE OF WATER.

Full responsibility for care of water (lake, reservoir or otherwise) shall be borne by the Contractor for work under this contract. The Contractor shall provide the materials and equipment and perform all work necessary to facilitate repair and to protect the work from damage by water and vice versa. The Contractor shall make his own investigations and determinations of conditions at the site, both existing and anticipated, concerning care of water in accordance with the environmental requirements specified. Plans for care of water are subject to approval by the Contracting Officer prior to construction. Facilities shall be removed upon completion of the work.

## 2.5 DISPOSITION OF REPAIR FACILITIES.

All buildings and facilities constructed by the Contractor shall be maintained in a satisfactory condition with strict observance of the rules of sanitation, safety, and order as may be established by the Contracting Officer. Prior to final payment under the contract, all buildings and facilities constructed by the Contractor for his own use shall be removed from the site by the Contractor.

## 2.6 ACCESS ROADS.

Access roads as required for the prosecution of the work shall be maintained (including sprinkling for dust control, safety personnel, signals, and control) within the work areas assigned to the Contractor. Consideration shall be given to the avoidance of interference with others, safety and frequency of traffic, subject to review and approval prior to construction. Access road areas shall be restored to their original or suitable condition upon completion of this contract. The Contractor shall be responsible for repair of damage to existing roads caused by his operations.

## 2.7 PUBLIC ROADS.

### 2.7.1 Traffic Control.

The Contractor shall be responsible for the safe control of traffic on all haul and access roads used primarily for the work under these specifications and at their crossings with roads used by others. The Contractor shall, at his own expense, furnish all personnel, signal devices, etc. necessary for the safe and efficient control of traffic on road systems used by the Contractor if the roadways are not closed. A plan for traffic control, including a listing of equipment and its employment, shall be submitted for review and approval prior to start of work.

### 2.7.2 Operations.

When operations are being conducted near a U.S. or state highway or when equipment is being used on or adjacent to such a highway, the Contractor shall furnish signalmen and such warning signs as are necessary to provide adequate warning to the traveling public. The highways and streets with access across the dam spillway shall be kept open at all times unless approved otherwise.

## PART 3 EXECUTION

### 3.1 COOPERATION AND COORDINATION WITH OTHERS.

The Contractor shall cooperate and coordinate his work with that of others as required for orderly completion of all work. In the event of disagreement between the Contractor and others, the decision of the Contracting Officer shall be final. Other contractors on U.S. Government work (including Government personnel) may be working in the area during the life of this contract. The Contractor shall coordinate his work with others to avoid undue interference and shall conduct his operation within the limits of the assigned construction area or construction right-of-way limits. The Contractor shall cooperate with others as necessary in the interest of timely completion of all work and in the event of disagreement the decision of the Contracting Officer shall be final.

### 3.2 ORDER OF WORK.

#### 3.2.1 General.

The sequence of operations shall be maintained so that the maximum amount of work may be done under favorable working conditions in accordance with the completion time set forth in SECTION: SPECIAL CLAUSES, paragraph: Commencement, Prosecution, and Completion of Work. The Contractor shall submit for approval, within 15 days after receipt of notice to proceed a narrative description of his proposed methods of operation.

#### 3.2.2 Special Conditions.

The following conditions are set forth to maintain the integrity of the control tower and its function:

1. Only one gate in one passageway shall be out of service at a time. One passageway shall remain fully operational at all times. This means the first gate to be repaired shall be service gate #1.
2. Before another gate can be removed for repair, the remaining gates shall be operational.
3. Stoplogs shall be placed before an emergency gate can be removed.
4. Stoplogs and/or emergency gates do not provide a 100% effective seal and leakage past either the stoplogs or emergency gates when deployed separately or together should be anticipated by the Contractor. Leakage rate varies depending on lake elevation and alignment of stoplogs in the slot. The rate typically varies from 0.5 to 3 CFS. Depending on lake level, the water level in

- the passageway due to stoplog/emergency gate leakage can be as much as 3" deep. (NOTE: if a better seal is required, one method of completely sealing the stoplogs requires the use of divers to install packing or sealant in the gaps from the upstream side of the stoplogs). If divers are used, they must comply with Section 30 of the Corps of Engineers Safety Manual, EM 385-1-1.
5. Placement and removal of stoplogs SHALL be coordinated with Project personnel and project personnel shall be on-site to assist and observe. (NOTE: Pressure on each side of the stoplogs must be equalized before the stoplogs can be removed from the stoplog slot. Project personnel will assist with this task).
  6. No personnel will be allowed in a passageway downstream of the stoplogs with a pool elevation exceeding elevation 891.5.
  7. It is very likely that lake water may be discharged through the adjacent passageway while the Contractor is working in the conduit. Certain pool, inflow and outflow conditions may prevent work in the water passageway. Contractor shall coordinate all work in the conduit (passageway) with the Contracting Officer's Representative and/or Operations Manager at Perry Lake. The Government shall be given 48 hours notice for anticipated work by the Contractor within the conduit. The Government will give approval for work within the conduit based on lake level, releases and forecast.

Contractor shall incorporate the above conditions when preparing the "WORK AND OUTAGE SCHEDULE" for review and approval.

### 3.3 WINTER WORK.

No separate or additional payment will be made for winterizing or other protective measures that are required for the Contractor to maintain his scheduled progress.

### 3.4 COORDINATION.

The Contractor's employees shall not open, close, or tamper with switches, valves, or control devices for existing installed equipment within the control tower. Only Government operating personnel will be authorized to open or close existing switches, valves, and control devices to enable the Contractor to make connections or modifications to existing equipment for execution of the work delineated in this contract. The Contractor shall provide the Government with a minimum notice of one week prior to starting the work on any service or emergency gate. The Contractor's work operations shall be coordinated and scheduled to reduce the amount of time for performance of this contract to a minimum.

A minimum notice of 24 hours during the week and 72 hours over the weekend shall be provided for coordination of downtime by the Government.

### 3.5 WORK AND OUTAGE SCHEDULE.

Within 30 days after contract award, the Contractor shall coordinate with Government representatives and submit for approval, in accordance with paragraph: SUBMITTALS, all items listed in the technical

portions of the specifications and a "WORK AND OUTAGE SCHEDULE".

### 3.6 STORAGE.

Contractor-furnished equipment shall be stored at a location approved by the Contracting Officer's authorized representative. The Contractor shall be responsible for the care of material and equipment in storage including any Government property already located in the designated work area.

### 3.7 SERVICES AVAILABLE.

#### 3.7.1 Control Tower Access.

Prior to start of fieldwork, a meeting will be held at Perry Lake Project Office, between Government personnel and all contractor employees who will be working at the site to discuss security issues. Accessibility to the tower bridge, tower deck and interior of the control tower will be discussed. The mode of operation for access to the work area will be discussed in detail. The contractor and his employees SHALL conform to the rules as discussed in this meeting. All contractor employees shall have a valid driver's license (with picture) and shall be temporarily turned over to the Operations Manager who will make photocopies of all drivers' licenses. The only personnel that will be allowed access to the work area are those that have attended the security meeting and have a copy of their driver's license on file at the project office. The Government reserves the right to deny access to the work area to any individual.

Access to the control tower and facilities shall be coordinated with the Contracting Officer's Representative. The Contractor's temporary access provisions, encroachment on a roadway, and any other temporary access details shall be submitted to the Contracting Officer for approval, particularly in regard to safety, security, and encroachment. Reference is made to Information Only Drawings. An on-site inspection of the control tower, tower bridge, roadways, etc. by prospective bidders is STRONGLY recommended. The Contractor will have the option of using the manholes at elevation 882.0 for access to the gates. The Contractor shall properly re-seal the manhole covers once work has been completed. The manhole access covers shall not leak once re-sealed.

#### 3.7.2 Restrooms.

The Contractor shall provide restroom facilities for his employees. Restroom facilities shall be located as directed by the Contracting Officer's representative. Access and/or use of Government facilities at the project office will **not** be made available except on a temporary basis.

#### 3.7.3 Pre-bid Site Visit.

Prior to bidding on this job, all bidders are encouraged to inspect the site conditions. Site visits shall be coordinated with the Contracting Officer's authorized representative.

#### 3.7.4 Utilities.

There will be **no** additional (beyond existing) compressed air, electricity, or other utilities made available to the Contractor, for performance of this work. All utilities, which shall be provided by the Contractor, shall be installed, operated and maintained in accordance with the applicable codes governing such utilities. The Contractor will be required to furnish all temporary power, lines, transformers, connections, and maintain them in a workmanlike manner in accordance with the National Electrical Code (2002) and the Corps of Engineers Safety and Health Manual EM 385-1-1. Prior to completion of the contract, all temporary facilities and utilities shall be removed and the regular facilities shall be restored to their original condition. If the tower elevator is available for use by the contractor, it shall only be used to transport personnel. **TRANSPORTATION OF TOOLS AND EQUIPMENT IN THE ELEVATOR IS PROHIBITED.**

#### 3.7.5 Safety Railings.

Government-furnished safety railings, made available to the Contractor, shall be placed around the floor openings whenever the hatches are removed.

### 3.8 GOVERNMENT-FURNISHED EQUIPMENT AND MAINTENANCE.

#### 3.8.1 General.

Use of Government equipment or property not specifically mentioned herein or shown on the drawings shall be subject to approval.

#### 3.8.2 Equipment Condition.

The Contractor and a representative of the Contracting Officer shall inspect all Government-furnished equipment for condition prior to use. Upon completion of the work, the equipment must be returned to the Government in the originally inspected condition.

#### 3.8.3 Stoplogs.

Stoplogs are used to allow maintenance activities within each passageway. There are only enough stoplogs to close off one passageway at a time. The stoplogs and lifting beam are stored within the control tower. The stoplogs and lifting beam will be available to the contractor during the performance of work in this contract. Setting of stoplogs requires the use of a portable crane. The Contractor will be responsible for setting stoplogs during the performance of work in this contract. Government personnel will be available to assist in setting the stoplogs. Upon completion of work, the Contractor shall remove stoplogs from slot, clean and return them to their normal storage area within the tower.

### 3.9 PURCHASE ORDERS.

Each purchase order issued by the Contractor or his subcontractors for materials and equipment to be incorporated into the project shall: (1) be clearly identified with the applicable DA contract number, (2) carry an identifying number, (3) be in sufficient detail to identify the material being purchased, (4) indicate a definite delivery date, and (5) display the DMS priority rating. Copies of purchase orders shall be furnished to the Contracting Officer when the Contractor requests assistance for expediting deliveries of equipment or material, or when requested by the Contracting Officer for the purpose of quality assurance review.

### 3.10 PROGRESS CHARTS.

Progress charts submitted in accordance with the CONTRACT CLAUSES clause entitled "Schedule for Construction Contracts" shall indicate the required data for each of the principal features of the work and shall be submitted monthly throughout the duration of the contract.

### 3.11 ROADWAY CLOSURE.

In order for the Government to close any roadway and possibly detour traffic, the Contractor shall notify the Contracting Officer's Representative one week prior to beginning work. Furthermore, the Contractor shall be responsible for coordinating his work, roadway closures, installing approved barricades, signs, etc. with the Contracting Officer's Representative throughout the entire contract. Barricades, signs, etc. necessary for the diversion of traffic shall be provided by the Contractor and shall be acceptable by the State of Kansas Highway Department in all instances for the application used. Depending upon the location for performance of the work, it is not anticipated any road closures or detours will be necessary.

### 3.12 SAFE CLEARANCE PROCEDURES.

A safe clearance procedure is used by project personnel to ensure continuity of service and safety to personnel and equipment. Any work performed by the Contractor which requires taking project operating equipment out of service or returning to service will be done only after a formal clearance is obtained through the Contracting Officer's Representative. Clearances will be issued only by the appropriate project personnel on duty as arranged by and through the Contracting Officer's Representative. Clearance procedures shall not be violated. All Contractor personnel shall be required to attend a meeting concerning safe clearance procedure conducted by the Government prior to start of work.

### 3.13 PAYMENT.

No separate measurement or payment will be made for work referred to in this section. All costs of operations herewith shall be considered a subsidiary obligation of the Contractor to be included in the applicable contract unit price.

**SERVICE GATE BUSHING INSPECTION****SERVICE GATE # 2****DATA SHEET**

**NOTE: BUSHINGS ARE IDENTIFIED AS 1 THROUGH 8 AND LEFT (L) OR RIGHT (R). BUSHING 1-L IS CONTAINED IN WHEEL 1-L. WHEEL 1-L IS THE TOP WHEEL ON THE LEFT SIDE OF THE GATE WHEN LOOKING DOWNSTREAM (WITH THE GATE IN THE GATE SLOT).**

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## EMERGENCY GATE BUSHING INSPECTION

## EMERGENCY GATE # 1 DATA SHEET

NOTE: BUSHINGS ARE IDENTIFIED AS 1 THROUGH 8 AND LEFT (L) OR RIGHT (R). BUSHING 1-L IS CONTAINED IN WHEEL 1-L. WHEEL 1-L IS THE TOP WHEEL ON THE LEFT SIDE OF THE GATE WHEN LOOKING DOWNSTREAM (WITH THE GATE IN THE GATE SLOT).

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EMERGENCY GATE BUSHING INSPECTION

**EMERGENCY GATE # 2          DATA SHEET**

**NOTE: BUSHINGS ARE IDENTIFIED AS 1 THROUGH 8 AND LEFT (L) OR RIGHT (R). BUSHING 1-L IS CONTAINED IN WHEEL 1-L. WHEEL 1-L IS THE TOP WHEEL ON THE LEFT SIDE OF THE GATE WHEN LOOKING DOWNSTREAM (WITH THE GATE IN THE GATE SLOT).**

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## SECTION 05055

## WELDING, STRUCTURAL

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT)

ASNT-01 (1992; Supple) Recommended Practice SNT-TC-1A

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 27	(1995) Steel Castings, Carbon, for General Applications
ASTM A 36	(1997) Carbon Structural Steel
ASTM A 148	(1998) Steel Castings, High Strength, for Structural Purposes
ASTM A 572	(2001) Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM A 781	(1997) Castings, Steel and Alloy, Common Requirements, for General Industrial Use
ASTM A 488	(1995) Standard Practice for Steel Castings, Welding, Qualifications of Procedures and Personnel
ASTM A 514	(1991) High-Yield-Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding
ASTM E 165	(1992) Liquid Penetrant Examination Inspection Method
ASTM E 709	(1991) Magnetic Particle Examination
ASTM A 770	(2001) Standard Specification for Through-Thickness Tension Testing of Steel Plates for Special Applications.

## AMERICAN WELDING SOCIETY (AWS)

AWS A2.4 (1993) Standard Symbols for Welding, Brazing and Nondestructive

## Examination

AWS D1.1 (2002) Structural Welding Code - Steel

AWS Z49.1 (1988) Safety in Welding and Cutting

## 1.2 DEFINITIONS

Definitions of welding terms shall be in accordance with Annex B as contained in AWS D1.1.

## 1.3 GENERAL REQUIREMENTS

Weld repair shall be as indicated or specified. Welding shall be as specified in this section, except where additional requirements are shown on the drawings or are specified in other sections. Welding shall not be started until welding procedures, welders, welding operators, and tackers have been qualified and the submittals approved by the Contracting Officer. Qualification testing shall be performed at or near the work site. Each Contractor performing welding shall maintain records of the test results obtained in welding procedure, welder, welding operator, and tacker performance qualifications.

## 1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-04 Drawings

#### 1.4.1. Detail Drawings; GA (EC-DS)

1.4.1.1. Contractor shall provide detailed drawings showing all areas (joints and or surfaces) identified by the Government inspector where repair by welding is necessary. Three (3) copies shall be provided.

1.4.1.2. Contractor shall provide detailed drawings showing all areas (joints and or surfaces) where weld repair has been completed on all components. Three (3) copies shall be provided.

### SD-08 Statements

#### 1.4.2. Welding Procedure Qualifications for Repair of Structural Steel; GA (EC-DS).

Welding repair plans for structural steel shall be submitted and approved prior to making repairs. Three (3) copies shall be provided. See section 1.5.

#### 1.4.3. Welding Procedure Qualifications for Repair of Cast Steel; GA (EC-DS).

Welding repair plans for cast steel shall be submitted and approved prior to making repairs. Three (3)

copies shall be provided. See section 1.5.

1.4.4. Welding Procedure Qualifications for Welding Cast Stainless Steel to Structural Steel; GA (EC-DS).

Welding repair plans for welding the newly fabricated (and one reused) cast stainless steel gage stem couplings to the structural steel section of the gate shall be submitted and approved prior to making repairs. Three (3) copies shall be provided. See section 1.5.

1.4.5. Nondestructive Testing Procedure; GA (EC-DS)

Procedure for inspection of areas repaired by welding shall be submitted and approved prior to making repairs. Three (3) copies shall be provided. See section 2.2.1.

SD-13 Certificates

1.4.6. Welder, Welding Operator, and Tacker Qualification; GA (EC-DS).

1.4.7. Material Certification for new Structural (ASTM A572, Grade 50) Material (including Charpy Test); GA (EC-DS)

Certificates shall be provided that show all welders, welding operators and tackers are certified to perform the type of welding procedures required for work in this contract. Three (3) copies shall be provided. See section 1.6.

1.4.8. Inspector Qualification; GA (EC-DS).

Certificates shall be provided that show all inspectors are certified to perform the type of inspections required for work in this contract. Three (3) copies shall be provided. See section 1.7.

SD-18 Records

1.4.9. Quality Control and Inspection Reports; GA (EC-DS).

1.4.9.1 A quality control plan (3 copies) and records of tests and inspections to be used by the Contractor to assure weld repairs are made as required in this specification shall be submitted.

1.4.9.2 Contractor shall also submit 3 copies of all inspection reports for all welding performed during this contract. See section 3.1.2.

1.5 WELDING PROCEDURE QUALIFICATIONS

Except for prequalified (per AWS D1.1) and previously qualified procedures, each Contractor performing welding shall record in detail and shall qualify the welding procedure specification for any welding procedure followed in the fabrication of weldments. Qualification of welding procedures shall conform to AWS D1.1 and to the specifications in this section. Three (3) copies of the welding

procedure specification and the results of the procedure qualification test for each type of welding which requires procedure qualification shall be submitted for approval. Approval of any procedure, however, will not relieve the Contractor of the sole responsibility for producing a finished structure meeting all the requirements of these specifications. This information shall be submitted on the forms in Annex E of AWS D1.1. Welding procedure specifications shall be individually identified and shall be referenced on the detail drawings and erection drawings, or shall be suitably keyed to the contract drawings. In case of conflict between this specification and AWS D1.1, this specification governs.

#### 1.5.1 Previous Qualifications

Welding procedures previously qualified by test may be accepted for this contract without requalification if the following conditions are met:

- a. Testing was performed by an approved testing laboratory, technical consultant or the Contractor's approved quality control organization.
- b. The qualified welding procedure conforms to the requirements of this specification and is applicable to welding conditions encountered under this contract.
- c. The welder, welding operator, and tacker qualification tests conform to the requirements of this specification and are applicable to welding conditions encountered under this contract.

#### 1.5.2 Prequalified Procedures

Welding procedures which are considered prequalified as specified in AWS D1.1 will be accepted without further qualification. The Contractor shall submit for approval a listing or an annotated drawing to indicate the joints not prequalified. Procedure qualification shall be required for these joints.

#### 1.5.3 Retests

If a welding procedure fails to meet the requirements of AWS D1.1, the procedure specification shall be revised and requalified, or at the Contractor's option, welding procedure may be retested in accordance with AWS D1.1. If the welding procedure is qualified through retesting, all test results, including those of test welds that failed to meet the requirements, shall be submitted with the welding procedure.

### 1.6 WELDER, WELDING OPERATOR, AND TACKER QUALIFICATION

Each welder, welding operator, and tacker assigned to work on this contract shall be qualified in accordance with the applicable requirements of AWS D1.1 and as specified in this section. Welders, welding operators, and tackers who make acceptable procedure qualification test welds will be considered qualified for the welding procedure used.

#### 1.6.1 Previous Qualifications

At the discretion of the Contracting Officer, welders, welding operators, and tackers qualified by test within the previous 6 months may be accepted for this contract without requalification if all the following

conditions are met:

- a. Copies of the welding procedure specifications, the procedure qualification test records, and the welder, welding operator, and tacker qualification test records are submitted and approved in accordance with the specified requirements for detail drawings.
- b. Testing was performed by an approved testing laboratory, technical consultant, or the Contractor's approved quality control organization.
- c. The previously qualified welding procedure conforms to the requirements of this specification and is applicable to welding conditions encountered under this contract.
- d. The welder, welding operator, and tacker qualification tests conform to the requirements of this specification and are applicable to welding conditions encountered under this contract.

#### 1.6.2 Certificates

Before assigning any welder, welding operator, or tacker to work under this contract, the Contractor shall submit the names of the welders, welding operators, and tackers to be employed, and certification that each individual is qualified as specified. The certification shall state the type of welding and positions for which the welder, welding operator, or tacker is qualified, the code and procedure under which the individual is qualified, the date qualified, and the name of the firm and person certifying the qualification tests. The certification shall be kept on file, and 3 copies shall be furnished. The certification shall be kept current for the duration of the contract.

#### 1.6.3 Renewal of Qualification

Requalification of a welder or welding operator shall be required under any of the following conditions:

- a. It has been more than 6 months since the welder or welding operator has used the specific welding process for which he is qualified.
- b. There is specific reason to question the welder or welding operator's ability to make welds that meet the requirements of these specifications.
- c. The welder or welding operator was qualified by an employer other than those firms performing work under this contract, and a qualification test has not been taken within the past 12 months. Records showing periods of employment, name of employer where welder, or welding operator, was last employed, and the process for which qualified shall be submitted as evidence of conformance.
- d. A tacker who passes the qualification test shall be considered eligible to perform tack welding indefinitely in the positions and with the processes for which he is qualified, unless there is some specific reason to question the tacker's ability. In such a case, the tacker shall be required to pass the prescribed tack welding test.

## 1.7 INSPECTOR QUALIFICATION

Inspection and nondestructive testing personnel shall be qualified in accordance with the requirements of ASNT-01 for Levels I or II in the applicable nondestructive testing method. The inspector may be supported by assistant welding inspectors who are not qualified to ASNT-01, and assistant inspectors may perform specific inspection functions under the supervision of the qualified inspector.

## 1.8 SYMBOLS

Symbols shall be in accordance with AWS A2.4, unless otherwise indicated.

## 1.9 SAFETY

Safety precautions during welding shall conform to AWS Z49.1.

# PART 2 PRODUCTS

## 2.1 WELDING EQUIPMENT, MATERIALS AND PROCESSES

All welding equipment, electrodes, welding wire, and fluxes shall be capable of producing satisfactory welds when used by a qualified welder or welding operator performing qualified welding procedures. All welding equipment and materials shall comply with the applicable requirements of AWS D1.1.

### 2.1.1 Welding of Structural, Cast Steel and Cast Stainless Steel

Welding procedures for structural and cast steel shall be prequalified as described in AWS D1.1 or shall be qualified by tests as prescribed in AWS D1.1. Properly documented evidence of compliance with all requirements of these specifications for previous qualification tests shall establish a welding procedure as prequalified. For welding procedures qualified by tests, the test welding and specimen testing must be witnessed and the test report document signed by a representative of the Contracting Officer. Approval of any welding procedure will not relieve the Contractor of the responsibility for producing a finished structure meeting all requirements of these specifications. The Contractor will be directed or authorized to make any changes in previously approved welding procedures that are deemed necessary or desirable by the Contractor Officer. The Contractor shall submit a complete schedule of welding procedures for each steel structure to be welded. The schedule shall conform to the requirements specified in the provisions AWS D1.1, Sections 3, 4 and 8. The schedule shall provide detailed procedure specifications and tables or diagrams showing the procedures to be used for each required joint or repair area. Welding procedures must include filler metal, preheat, interpass temperature, postheat and stress-relief heat treatment requirements. Each welding procedure shall be clearly identified as being prequalified or required to be qualified by tests. Welding procedures must show types and locations of welds designated on the drawings or in the specifications to receive nondestructive examination.

#### a. Welding Process

Welding shall be such as to minimize residual stresses, distortion and shrinkage.

b. Filler Metal

The electrode, electrode-flux combination and grade of weld metal shall conform to the appropriate AWS specification for the base metal and welding process being used. The AWS designation of the electrodes to be used shall be included in the schedule of welding procedures. Only low hydrogen electrodes shall be used for manual shielded metal-arc welding regardless of the thickness of the steel. A controlled temperature storage oven shall be used at the job site as prescribed by AWS D1.1, to maintain low moisture of low hydrogen electrodes.

c. Preheat and Interpass Temperature

AWS D1.1, Table 3.2 prequalified criteria for minimum preheat and interpass temperatures shall be followed for all welds. These requirements shall be listed on the welding procedure.

d. Stress-Relieving

The weld root pass shall be magnetic particle tested. Peening shall be used on intermediate weld layers for control of shrinkage stresses. Cap pass shall not be peened.

e. Preparation of Base Metal

Prior to welding, the Contractor shall inspect surfaces to be welded to assure compliance with AWS D1.1.

f. Tack Welds

Tacks welds that are to be incorporated into the permanent work shall be subject to the same quality requirements as the permanent welds and shall be cleaned and thoroughly fused with permanent welds. Multiple-pass tack welds shall have cascaded ends. Defective tack welds shall be removed before permanent welding.

## 2.2 TESTS AND INSPECTIONS

All repairs made by welding by the contractor shall be inspected and inspection reports (3 copies) shall be submitted to the Government.

### 2.2.1 Examination and Testing

The nondestructive examination of welds and the evaluation of examination tests as to the acceptability of the welds shall be performed by a testing agency adequately equipped and competent to perform such services or by the Contractor using suitable equipment and qualified personnel. In either case, Government approval of the examination procedures is required.

#### 2.2.1.1 Visual Examination

All completed welds shall be cleaned and carefully examined for insufficient throat or leg sizes, cracks, undercutting, overlap, excessive convexity or reinforcement and other surface defects to ensure compliance with the requirements of AWS D1.1.

#### 2.2.1.2 Nondestructive Examination

Ultrasonic testing shall be accomplished 48 hours after welding. The testing shall meet the acceptance criteria for statically loaded nontubular connections as outlined in AWS D1.1 paragraph 6.13.1. When the soundness of any weld is suspected of being deficient due to faulty welding, the Contractor shall supplement the visual inspection with dye penetrant and or ultrasonic testing. Dye penetrant inspection of welds shall conform to the applicable provisions of ASTM E 165.

#### 2.2.1.3 Government Examination

The Government reserves the right to perform supplemental nondestructive examinations before final acceptance. Repairs made by welding shall be subject to inspection and tests in the shop or field. Inspection and tests in the shop or field will not relieve the Contractor of the responsibility to furnish weld repairs of satisfactory quality. The costs of such inspection and testing will be borne by the Contractor if unsatisfactory welds are discovered, or by the Government if the welds are satisfactory. The Government inspection may be performed by the Government's own forces or under a separate contract for inspection and testing. When materials or workmanship do not conform to the specification requirements, the Government reserves the right to reject material or workmanship or both at any time before final acceptance of the structure containing the weldment. Rejected parts shall be repaired and retested at the Contractor's expense.

#### 2.2.2 Acceptability of Welds

Welds shall be unacceptable if shown to have defects prohibited by AWS D1.1 or possess any degree of incomplete fusion, inadequate penetration or undercutting.

### 2.3 CORRECTIONS AND REPAIRS

When inspection or testing indicates defects in the weld joints or areas, the welds shall be repaired in accordance with the approved procedures. Defects discovered between passes shall be repaired before additional weld material is deposited. Wherever a defect is removed and repair by welding is not required, the affected area shall be blended into the surrounding surface to eliminate sharp notches, crevices, or corners. After a defect is thought to have been removed, and before rewelding, the area shall be examined by suitable methods to insure that the defect has been eliminated. Repair welds shall meet the inspection requirements for the original welds. Any indication of a defect shall be regarded as a defect, unless reevaluation by nondestructive methods or by surface conditioning shows that no unacceptable defect is present.

## PART 3 EXECUTION

### 3.1 WELDING OPERATIONS

### 3.1.1 Requirements

Workmanship and techniques for welded construction shall conform to the requirements of AWS D1.1 and AISC-04. When AWS D1.1 and the AISC-04 specification conflict, the requirements of AWS D1.1 shall govern.

### 3.1.2 Coordination of Weld Repair

Areas requiring weld repair shall be coordinated in the following manner:

#### 3.1.2.1 Certified Welding Inspector (CWI)

The Contractor shall use a Certified Welding Inspector (CWI) to assess the damage to the structural members and welds of each gate.

### 3.1.3 Documentation of Weld Repair Areas

The Contractor shall submit for approval, drawings indicating the location of areas or existing welds **TO BE** repaired. This submittal must be approved by the Government before weld repair can begin.

Once Contractor has completed repairs by welding and all required testing, the contractor shall submit drawings which accurately show length, width and depth of all repair welds made. Drawings shall identify exact location of all welds made on each component.

## 3.2 QUALITY CONTROL

Testing shall be done by an approved inspection or testing laboratory or technical consultant, or if approved, the Contractor's inspection and testing personnel may be used instead of the commercial inspection or testing laboratory or technical consultant. The Contractor shall perform visual and dye penetrant and or ultrasonic inspection to determine conformance with paragraph 3.3 STANDARDS OF ACCEPTANCE. Procedures and techniques for inspection shall be in accordance with applicable requirements of AWS D1.1.

## 3.3 STANDARDS OF ACCEPTANCE

Dimensional tolerances for weld repairs, details of welds, and quality of welds shall be in accordance with the applicable requirements of AWS D1.1 and the contract drawings.

## 3.4 COMPONENTS TO BE WELDED

### 3.4.1 Emergency Gates.

The lower horizontal seal surface on both emergency gates has experienced corrosion. The corrosion has migrated from the upstream edge towards the downstream edge. For the most part, the corrosion has not migrated completely through the seal surface. This portion of each emergency gate is a cast steel

structure that is welded to the remainder of the gate leaf. The cast steel material is QQ-S-681 d, class 80 - 50. This material is similar to ASTM A 148 (Standard Specification for Steel Castings, High Strength, for Structural Purposes). The Corps of Engineers had a chemical analysis performed on a specimen of the cast steel portion of a gate. The chemical analysis is as follows:

	%
Total Carbon	.34
Silicon	.43
Sulfur	.042
Manganese	.88
Phosphorus	.035
Nickel	.74
Chromium	.88
Molybdenum	.39
Copper	.13
Vanadium	not detected (less than .005)
Aluminum	.033

Tested in accordance with ASTM E 415-99a

Contractor shall coordinate weld repair for the above mentioned type of material, as required. See Section 02100, paragraph 1.1.5.5, entitled, Repair of Upstream and Horizontal Seal Surface on Emergency Gates, for a complete description of existing conditions.

In addition to the seal bar areas, cracks may be present in the structural members of the cast steel sections for three of four gates (one service and two emergency), as well.

#### 3.4.2 Low Flow Gate Leaf.

The low flow gate contained within each service gate is a cast steel structure. The cast steel material is QQ-S-681 d, class 65 - 35. This material is similar to ASTM A 27 (Standard Specification for Steel Castings, Carbon, for General Applications). **IF REPAIRS ARE REQUIRED ON THE LOW FLOW GATE LEAF(S)**, the Contractor shall coordinate weld repair for the above mentioned type of material. No repairs for the low flow gate leafs are anticipated during performance of work in this contract. (Exercise Option 4 in the OPTION BID SCHEDULE).

#### 3.4.3 Service and Emergency Gate Leaf.

The material for the main leaf for each service and emergency gate is ASTM A 373 (this material is similar to ASTM A 36, Standard Specification for Carbon Structural Steel). Due to the effects of corrosion and high stress levels, some of the base material **MAY** require repair by welding and subsequent surface grinding. Repair **MAY** also be required at welded joints between structural members. **IF REPAIRS ARE REQUIRED ON GATE(S)**, the Contractor shall coordinate weld repair for the above mentioned type of material. (Exercise Option 3 in the OPTION BID SCHEDULE).

## SECTION 05101

## METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 743	(1998) Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application
ASTM A 895	(1989) Free-Machining Stainless Steel Plate, Sheet, and Strip
ASTM B 23	(1994) White Metal Bearing Alloys
ASTM B 138	(1996) Manganese Bronze Rod, Bar, and Shapes
ASTM B 584	(1996) Copper Alloy Sand Castings for General Applications
ASTM E 165	(1992) Liquid Penetrant Examination Inspection Method
ASTM E 709	(1991) Magnetic Particle Examination

## AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B46.1	(1985) Surface Texture (Surface Roughness, Waviness, and Lay)
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## 1.2 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTAL DESCRIPTIONS:

## SD-04 Drawings

## 1.2.1 Detail Drawings for Machining; GA (EC-DS).

A. Detail drawings showing set-up of machine tool(s) for repair (i.e. machining) of the seal surface on each emergency or service gate shall be submitted and approved prior to repair, if contractor intends to

repair this surface by precision machining. Submittal shall list all equipment that will be used to achieve the machined profile and surface finish. List of equipment shall include test equipment used by contractor to determine surface finish.

B. Detail drawings showing set-up of machine tool(s) for boring new holes for axles (in service gate or emergency) if the existing cast steel section is removed and replaced with a new section fabricated from structural shapes shall be submitted and approved prior to repair. Submittal shall list all equipment that will be used to achieve the machining and surface finish.

#### 1.2.1.1 Statement for Finishing Seal Surface by Hand Tools; FIO (EC-DS).

If finish on emergency gate seals is to be achieved by use of hand tools, no detailed drawings are required, only a statement stating final finish and profile are by hand tools.

#### SD-08 Statements

#### 1.2.2 Repairs by Machining; GA (EC-DS).

##### Emergency Gates.

Contractor shall submit a detailed, written procedure of the machining method or process to achieve the required surface finish and tolerance for repair of the seal surface for the emergency gates, if this method of repair is used. Submittal shall also state the experience for each machine operator who will be performing the machine work. Description shall state if the machining will be performed on site (in the field) or at the contractor's shop.

#### 1.2.3 Babbitt Repair; GA (ED-DS).

Contractor shall submit a detailed written description (i.e. repair procedure) of the method or process to repair the eroded babbitt areas for the four (4) gate sill plates (emergency and service gates). Repair procedure shall include Contractor's method of testing for bond between the existing embedded babbitt and the newly poured babbitt and the method(s) that that will be used to achieve the surface profile and surface finish. Repair procedure shall include a list of test equipment for determining percentage of bond between babbitt. Description shall state if the machining will be performed on site (in the field) or at the contractor's shop. Included in this submittal will be the Contractor's past experience with repairs of this type.

#### SD-13 Certificates; GA (ED-DS)

Certified test reports for materials shall be submitted for the following components:

#### 1.2.4 Babbitt Material

Certificates shall contain the test site, address and the name of the testing agency.

#### 1.2.5 Gage Stem Coupling Material

Contractor shall submit for approval, material certification for material used for gage stem couplings.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Babbitt

Babbitt material provided by contractor shall be white metal bearing alloy, per ASTM B 23, grade 3 (tin base, UNS-L13840) or approved equal.

#### 2.1.2 Seal Surface for Emergency Gates

Material (electrode material) for repair of the seal surface on the emergency gates will be subject to approval by the Government. See section 05055 Welding, Structural.

#### 2.1.3 Gage Stem Couplings

Material used shall be one of the following:

ASTM A 743, grades CF-3M, CF-3MN, CG-3M, CN-3MN or CG-8M.

Other materials will require approval by the government.

### 2.2 FABRICATION

#### 2.2.1 Babbitt

Babbitt repair will be by Government approved process as submitted by Contractor. Surface finish of all repaired areas shall match surface finish of babbitt adjacent to repaired areas or shall be a 32 RMS.

#### 2.2.4 Seal Surface for Emergency Gates

Seal surface repair will be by Government approved process as submitted by Contractor. Machined seal surface (HORIZONTAL SEAL SURFACE THAT MATES TO THE BABBITT SEAL) shall have a 63 RMS finish all over. See sheets S1.22 and S1.37 for dimensions, tolerances and finishes.

#### 2.2.5 Gage Stem Couplings

Couplings shall be fabricated as shown on sheet S1.21 and as described in Section 02100.

#### 2.2.6 Machine Work

Where fits are not shown they shall be suitable for the component and its intended use. Tolerances for machine-finished surfaces designated by non-decimal dimensions shall be within 1/64-inch. Finished contact or bearing surfaces shall be true and exact to secure full contact. Parts entering any machine shall be accurately machined and all like parts shall be interchangeable except that parts assembled together for drilling or reaming of holes or machining will not be required to be interchangeable with like parts. All drilled holes shall be accurately located.

### 2.2.6.1 Finished Surfaces

Surface finishes indicated on the drawings or specified herein shall be in accordance with ASME B46.1. Values of required roughness heights are arithmetical average deviations expressed in micro-inches. These values are maximum. Lesser degrees will be satisfactory unless otherwise indicated on the drawings. Compliance with surface requirements shall be determined by use of a profilometer. Values of roughness width and waviness height shall be consistent with the general type of finish specified by roughness height. Where the finish is not indicated or specified it shall be that which is most suitable for the particular surface and provide the class of fit required. Flaws such as scratches, ridges, holes, peaks, cracks or checks which will make the part unsuitable for the intended use will be cause for rejection.

### 2.2.6.2 Unfinished Surfaces

All work shall be laid out to secure proper matching of adjoining unfinished surfaces unless otherwise directed. Where there is a large discrepancy between adjoining unfinished surfaces they shall be chipped and ground smooth or machined to secure proper alignment. Unfinished surfaces shall be true to the lines and dimensions shown on the drawings and shall be chipped or ground free of all projections and rough spots. Depressions or holes not affecting the strength or usefulness of the parts shall be filled in a manner approved by the Contracting Officer.

## 2.3 TESTS, INSPECTIONS, AND VERIFICATIONS

The Contractor shall have required material tests and analyses performed and certified by an approved laboratory to demonstrate that materials are in conformity with the specifications. These tests and analyses shall be performed and certified at the Contractor's expense. Tests shall conform to the requirements of the particular sections of these specifications for the respective items of work unless otherwise specified or authorized. Tests shall be conducted in the presence of the Contracting Officer, if so required. The Contractor shall furnish specimens and samples for additional independent tests and analyses upon request by the Contracting Officer. Specimens and samples shall be properly labeled and prepared for shipment.

### 2.3.1 Nondestructive Testing

When doubt exists as to the soundness of any material part, such part may be subjected to any form of nondestructive testing determined by the Contracting Officer. This may include ultrasonic, magnaflux, dye penetrant, x-ray, gamma ray or any other test that will thoroughly investigate the part in question. The cost of such investigation will be borne by the Government. Any defects will be cause for rejection and rejected parts shall be replaced and retested at the Contractor's expense.

### 2.3.2 Tests of Machinery and Structural Units

After being installed at the site each complete machinery or structural unit shall be operated through a sufficient number of complete cycles to demonstrate to the satisfaction of the Contracting Officer that it meets the specified operational requirements in all respects.

## PART 3 EXECUTION

### 3.1 INSTALLATION

All parts to be installed shall be thoroughly cleaned. Packing compounds, rust, dirt, grit and other foreign matter shall be removed. Pipe wrenches, cold chisels or other tools likely to cause damage to the surfaces of rods, nuts or other parts shall not be used for assembling and tightening parts.

### 3.1.1 Alignment and Setting

Each machinery or structural unit shall be accurately aligned so that no binding in any moving parts or distortion of any member occurs before it is fastened in place. The alignment of all parts with respect to each other shall be true within the respective tolerances required. Machines shall be set true to the elevations shown on the drawings.

## 3.2 PROTECTION OF FINISHED WORK

### 3.2.1 Machined Surfaces

Machined surfaces shall be thoroughly cleaned of foreign matter. Finished surfaces of metals which shall be exposed after installation except corrosion resisting steel or nonferrous metals shall be painted as specified in Section 09965 PAINTING: HYDRAULIC STRUCTURES.

## SECTION 05502

## METALS: MISCELLANEOUS, STANDARD ARTICLES, SHOP FABRICATED ITEMS

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 320/A 320M	(1997) Alloy Steel Bolting Materials for Low-Temperature Service
ASTM B 843	(1993) Magnesium Alloy Anodes for Cathodic Protection
ASTM D 1330	(1995) Rubber Sheet Gaskets
ASTM D 1414	(1994) Standard Test Method for Rubber O-rings
ASTM F 593	(1997) Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F 594	(1992) Stainless Steel Nuts
ASTM F 837	(1991) Stainless Steel Socket Head Cap Screws

## AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B18.2.2	(1987) Square and Hex Nuts (Inch Series)
ASME B18.21.1	(1990) Lock Washers
ASME B18.22.1	(1965; R 1990) Plain Washers

## 1.2 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTAL DESCRIPTIONS:

## SD-04 Drawings

## 1.2.1 Packing, O-ring, Gasket Materials; GA (ED-DS)

Provide three (3) copies of drawing(s) for each type of packing, O-ring, gasket, etc. contractor will provide and install during re-assembly of gates and hydraulic system. Drawings shall list material composition of all component parts.

#### SD-08 Statements

##### 1.2.3 Fasteners; GA (ED-DS).

Provide three (3) copies of material certification or statement that verifies the material composition of all bolts, screws, lock washers and plain (flat) washers provided under this contract.

##### 1.2.4 Brass Tubing/Pipe; GA (ED-DS)

Provide three (3) copies of statement showing that material to be used for replacement of brass tubing/pipe matches existing tubing/pipe. Information submitted shall include the following:

1. inside and outside diameter or
2. schedule with wall thickness,
3. type of material,
4. tensile strength and
5. yield strength.

##### 1.2.5 Backer Rod and Sealant for Hatches; GA (ED-DS)

Backer rod shall be type and size suitable for the gaps to be sealed. Sealant shall be Soneeborn SL-1, self leveling caulk (limestone color) or approved equal.

#### SD-13 Certificates

##### 1.2.6 Magnesium Anodes; GA (ED-DS)

Provide three (3) copies of material certification that verifies the material composition of all anodes provided under this contract.

## PART 2 PRODUCTS

### 2.1 MISCELLANEOUS METALS AND STANDARD METAL ARTICLES

Miscellaneous metal materials and standard metal articles shall conform to the respective specifications and other designated requirements. Sizes shall be as specified or shown. Where material requirements are not specified, materials furnished shall be suitable for the intended use and shall be subject to approval.

#### 2.1.1 Bolts, Nuts, and Washers

Bolts, nuts, and washers shall be of the material, grade, type, class, style and finish indicated or as approved. See sheets S1.17 and S1.18 for specific requirements for each type of fastener.

### 2.1.2 Alloy Steel Bolts, Nuts, and Washers

Fasteners shall be ASTM A 320 or approved equal. Consideration shall be given to the ability of vinyl paint to adhere to the fasteners (bolts, screws, nuts and washers).

### 2.1.3 Stainless Steel Bolts, Nuts, and Washers.

#### a. Bolts

Bolts shall be ASTM F 593 or ASTM F 837 or approved equal.

#### b. Nuts

Nuts shall be ASME B18.2.2 or ASTM F 594 as required (or approved equal). Nut material shall match or be compatible with bolt or screw material.

#### c. Washers

##### (1) Plain Washers

Plain washers shall be ASME B18.22.1 as required (or approved equal). Washer material shall match or be compatible with bolt or screw material.

##### (2) Lock Washers

Lock washers shall be ASME B18.21.1. as required (or approved equal). Washer material shall match or be compatible with bolt or screw material.

### 2.1.4 Magnesium Anodes

Magnesium anodes shall conform to the respective specifications and other designated requirements. Sizes shall be as specified or shown. Anode material shall meet the requirements of ASTM B 843. Chemical requirements shall be AZ63B, AZ63C or AZ63D (these are also known as H1A, H1B, and H1C, respectively). **ANODES SHALL NOT BE PAINTED.**

### 2.1.5 Brass Tubing/Pipe

Brass tubing/pipe shall conform to the respective specifications and other designated requirements. Sizes and materials shall match existing as found on each gate.

## 2.2 RUBBER PRODUCTS

Rubber products supplied by the contractor shall conform to the requirements as noted here and on sheets S1.17 and S1.18.

### 2.2.1 O-ring Gaskets

O-ring gasket material provided by the contractor shall be compatible for the fluids encountered. The o-ring provided for the cylinder head shall be compatible with cold mineral base hydraulic oil and have a Shore

durometer hardness between 67 - 75. If a splice is used, it shall be vulcanized.

### 2.2.2 Flat Rubber Gaskets

Rubber sheet gaskets shall conform to requirements of ASTM D1330. Flat rubber gaskets provided for work in this contract typically have a Shore durometer hardness between 55 - 65, unless noted otherwise. Joints shall be vulcanized.

## 2.3 PACKING and SEAL MATERIALS

New packing and seals shall be provided and installed by the contractor for all assemblies that required disassembly for removal and painting. The packing provided shall meet the requirements as listed on sheet S1.18 or an approved equal.

## 2.4 MISCELLANEOUS ITEMS

Miscellaneous items will be provided and installed by the contractor to return all systems to a full state of repair. This includes, but is not limited to, items such as cork (or other approved material) gaskets for the cover plates for the wheels and safety wire for hex head cap screws, which retain the wheels to the shafts (axles). All miscellaneous items provided by the Contractor shall be suitable high class commercial materials or articles that are satisfactory to the Contracting Officer.

## PART 3 EXECUTION

### 3.1 Bolts, Nuts and Washers

Contractor shall provide and install any missing bolts, nuts, washers, etc. as required. Torque requirements for each size of fastener shall be per the following charts:

#### **SAE GRADE 2 (74,000 TENSILE STRENGTH)**

<b><u>SIZE (DIA.)</u></b>	<b><u>FOOT POUNDS*</u></b>
1 / 4"	4
5/16"	8
3/8"	16
7/16"	25
1 / 2"	35
9/16"	55
5/8"	75
3 / 4"	135
7/8"	130
1"	200

\* Values are for lubricated threads, SAE Grade 2 bolt material. Threads shall be lubricated by use of liquid thread locking material or use of lubricant, if thread locking is not required. If Contractor has any questions concerning torque for bolts during re-assembly, contact Contracting Officers Representative.

**SAE GRADE 5 (120,000 TENSILE STRENGTH)**

<b><u>SIZE (DIA.)</u></b>	<b><u>FOOT POUNDS**</u></b>
1 / 4"	6
5/16"	13
3/8"	24
7/16"	35
1 / 2"	55
9/16"	80
5/8"	115
3 / 4"	200
7/8"	320
1"	480

\*\* Values are for lubricated threads, SAE Grade 5 bolt material. Threads shall be lubricated by use of liquid thread locking material or use of lubricant, if thread locking is not required. If Contractor has any questions concerning torque for bolts during re-assembly, contact Contracting Officers Representative.

**SAE GRADE 7 (133,000 TENSILE STRENGTH)**

<b><u>SIZE (DIA.)</u></b>	<b><u>FOOT POUNDS***</u></b>
1 / 4"	8
5/16"	15
3/8"	25
7/16"	45
1 / 2"	70
9/16"	100
5/8"	140
3 / 4"	240
7/8"	400
1"	500

\*\*\* Values are for lubricated threads, SAE Grade 7 bolt material. Threads shall be lubricated by use of liquid thread locking material or use of lubricant, if thread locking is not required. If Contractor has any questions concerning torque for bolts during re-assembly, contact Contracting Officers Representative.

**SAE GRADE 8 (150,000 TENSILE STRENGTH)**

<b><u>SIZE (DIA.)</u></b>	<b><u>FOOT POUNDS****</u></b>
1 / 4"	8
5/16"	18
3/8"	35
7/16"	55
1 / 2"	80
9/16"	110
5/8"	170

3 / 4"	280
7/8"	480
1"	680

\*\*\*\*\* Values are for lubricated threads, SAE Grade 8 bolt material. Threads shall be lubricated by use of liquid thread locking material or use of lubricant, if thread locking is not required. If Contractor has any questions concerning torque for bolts during re-assembly, contact Contracting Officers Representative.

### **BOLT MATERIAL: ASTM A 354 GRADE BB**

<b><u>SIZE (DIA.)</u></b>	<b><u>FOOT POUNDS</u></b>
1 3/4"	1500 to 1600
1 7/8"	1900 to 2000

These are the fasteners that assemble the bonnet cover to the bonnet thimble (1 3/4" dia.) and the cylinder head to the cylinder (1 7/8" dia.).

### **EXCEPTION TO BOLT TORQUING:**

Where a soft gasket material such as cork is used as a seal (see sheet S1.28, gate wheel cover plate) only minimum torque (approx. 15 ft. lbs.) will be used. The gasket SHALL NOT be extruded or severely pinched due to over tightening of fasteners. A liquid thread locking material (Loctite or other approved material) SHALL be used to retain bolts. Where Loctite (or similar) is used, the threads shall be properly prepared (i.e. cleaned) per manufacturer's recommendations. The type of liquid thread locking material shall allow for future disassembly of the threaded fasteners.

### **3.2 Anodes**

Contractor shall provide and install anodes as required. See sheet S1.41 for proper installation of anodes. All anodes shall be grounded on each end.

### **3.3 Brass Tubing/Pipe**

Upon removal of each gate, the existing brass tubing/pipe which make up the grease distribution system shall be inspected by the Government and Contractor. The contractor shall anticipate the timing of the inspection and provide the earliest possible notification to the Government. The Government will identify which lines shall be replaced with new. Contractor shall provide and install the appropriate size brass tubing/pipe (complete with all required fittings, etc.) as required for the lubrication system for all gates. Any pipes, new or existing, that are damaged by the Contractor, shall be replaced by the Contractor at the expense of the Contractor.

### **3.4 Four Way Air Valves**

Contractor shall remove existing 4-way air valves (2 valves) for the emergency gates. These valves are located within the control tower. Contractor shall install two (2) new government provided air valves. Contractor shall provide all fittings, seals, etc. for a complete, leak proof installation.

### 3.5 Rubber Gaskets

#### 3.5.1 General

As components are disassembled and the seal for rubber gaskets and o-rings are broken, new rubber gaskets and o-rings shall be provided and installed by the contractor upon re-assembly. All surfaces that require a gasket to achieve a seal shall be properly cleaned prior to installation of new gaskets or o-rings. If sealants are required, contractor shall provide and install per manufacturer's recommendations.

#### 3.5.2 Hydraulic Cylinder Head

The contractor shall remove the cylinder head for the hydraulic cylinder for both EMERGENCY GATES and remove existing o-ring. The Contractor shall provide and install new o-ring and re-torque fasteners. These fasteners shall be torqued to 1900 to 2000 foot pounds in 5 stages. The first stage requires the cylinder head to be properly indexed onto the cylinder flange and the fasteners evenly torqued (in a crisscross pattern) to 50 foot pounds. The torque will then be increased evenly in the next 4 stages.

### 3.6 Packing and Seals

New packing (V-ring or as noted on drawings) shall be provided and installed by the contractor for all assemblies that required disassembly for removal and painting. Contractor shall install packing per manufacturer's recommendations and make all necessary adjustments to properly seat the packing and provide a proper seal. New seals for gate wheels on one service gate and two emergency gates shall be provided by the government and installed by the Contractor.

## SECTION 09965

## PAINTING: HYDRAULIC STRUCTURES

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

**ANSI Z87.1** (1989; Errata; Z87.1a) Occupational and Educational Eye and Face Protection

**ANSI Z358.1** (1990) Emergency Eyewash and Shower Equipment

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

**ASTM D 153** (1984; R 1996) Specific Gravity of Pigments

**ASTM D 235** (1995) Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)

**ASTM D 281** (1995) Oil Absorption of Pigments by Spatula Rub-Out

**ASTM D 304** (1995) N-Butyl Alcohol (Butanol)

**ASTM D 520** (1984; R 1995) Zinc Dust Pigment

**ASTM D 561** (1982; R 1996) Carbon Black Pigment for Paint

**ASTM D 740** (1994) Methyl Ethyl Ketone

**ASTM D 770** (1995) Isopropyl Alcohol

**ASTM D 841** (1995) Nitration Grade Toluene

**ASTM D 843** (1995) Nitration Grade Xylene

**ASTM D 962** (1981; R 1994) Aluminum Powder and Paste Pigments for Paints

**ASTM D 1045** (1995) Sampling and Testing Plasticizers Used in Plastics

**ASTM D 1152** (1989; R 1993) Methanol (Methyl Alcohol)

**ASTM D 1153** (1994) Methyl Isobutyl Ketone

**ASTM D 1186** (1993) Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base

**ASTM D 1200** (1994) Viscosity by Ford Viscosity Cup

**ASTM D 1210** (1996) Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage

ASTM D 1400	(1994) Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base
ASTM D 1763	(1994) Epoxy Resins
ASTM D 2917	(1991; R 1994) Methyl Isoamyl Ketone
ASTM D 3721	(1983; R 1991) Synthetic Red Iron Oxide Pigment
ASTM D 4360	(1990; R 1995) Methyl n-Amyl Ketone
ASTM D 4417	(1993) Field Measurement of Surface Profile of Blast Cleaned Steel
ASTM E 1347	(1997) Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry

#### CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.20	Access to Employee Exposure and Medical Records
29 CFR 1910.94	Ventilation
29 CFR 1910.139	Respiratory Protection
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910, Subpart I	Personal Protective Equipment
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 50.6	National Primary and Secondary Ambient Air Quality Standards for Particulate Matter
40 CFR 50, App B	Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere
40 CFR 58, App E	Probe Siting Criteria for Ambient Air Quality Monitoring
40 CFR 60, App A, Mtd 22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares
40 CFR 117	Determination of Reportable Quantities for Hazardous Substances
40 CFR 122	EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 261, App III	Chemical Analysis Test Methods

40 CFR 261, App II, Mtd 1311	Toxicity Characteristic Leaching Procedure (TCLP)
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 262.22	Number of Copies
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171, Subchapter C	Hazardous Materials Regulations

#### ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
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#### FEDERAL SPECIFICATIONS (FS)

FS TT-P-38	(Rev E) Paint, Aluminum (Ready-Mixed)
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#### GRETAGMACBETH (GM)

GM-40291	(Matte Edition) Munsell Book of Color: Matte Finish Collection
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#### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(1996; Errata 96-4) National Electrical Code
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#### NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100	(1984; Supple 1985, 1987, 1988, & 1990) NIOSH Manual of Analytical Methods
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#### SSPC: THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC Guide 6	(1995) Containing Debris Generated During Paint Removal Operations
SSPC Paint 20	(1991) Zinc-Rich Primers (Type I - 'Inorganic' and Type II - 'Organic')
SSPC Paint 25	(1991) Red Iron Oxide, Zinc Oxide, Raw Linseed Oil and Alkyd Primer (Without Lead and Chromate Pigments)
SSPC Paint 27	(1991) Basic Zinc Chromate-Vinyl Butyral Wash Primer
SSPC SP 1	(1982) Solvent Cleaning
SSPC SP 3	(1995) Power Tool Cleaning

SSPC SP 5	(1994) White Metal Blast Cleaning
SSPC SP 6	(1994) Commercial Blast Cleaning
SSPC SP 7	(1994) Brush-Off Blast Cleaning
SSPC SP 10	(1994) Near White Metal Blast Cleaning

## 1.2 PRICE

### 1.2.1 Painting: Hydraulic Structures

#### 1.2.1.1 Payment

Payment will be made for costs associated with "Painting: Hydraulic Structures", which includes full compensation for furnishing all materials, equipment, and labor required to paint the hydraulic structures in accordance with Section 09965 PAINTING: HYDRAULIC STRUCTURES.

#### 1.2.1.2 Unit of Measure

Unit of measure: lump sum.

## 1.3 WORK PERFORMANCE

Work shall be performed in accordance with the requirements of 29 CFR 1910, 29 CFR 1926, EM 385-1-1, and other references as listed herein. Matters of interpretation of the standards shall be submitted to the Contracting Officer for resolution before starting work. Where the regulations conflict, the most stringent requirements shall apply.

## 1.4 LEAD PROTECTION PROGRAM (IF REQUIRED)

For all jobsites where lead is present, the Contractor shall develop a comprehensive lead protection program in accordance with 29 CFR 1926.62. The program shall include, but is not limited to the following:

- a. Containment Plan
- b. Visible Emissions Monitoring Plan
- c. Ambient Air Monitoring Plan
- d. Water Quality Plan
- e. Soil Quality Plan

## 1.5 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Qualifications and Experience; GA – (EC-DS).

The Contractor shall provide certification pursuant to paragraph QUALIFICATIONS for all job sites. Submittal of the qualifications and experience of any additional qualified and competent persons the CIH, IH, CSP employs to provide on-site safety and health will also be provided. Acceptance of this submission must be obtained prior to the submission of other required safety and health submittal items.

#### Accident Prevention Plan; GA - RE.

The requirements included in Section 01 of EM 385-1-1 shall be followed by the Contractor when preparing the Accident Prevention Plan. The plan shall be prepared for all sites and shall include, but is not limited to, each of the topic areas listed in Table 1-1 therein and the requirements of paragraph SAFETY AND HEALTH PROVISIONS; each topic shall be developed in a concise manner to include management and operational aspects.

#### Confined Space Procedures; GA – (EC-DS).

The Contractor shall develop detailed written standard operating procedures for confined spaces for all job sites in accordance with 29 CFR 1910.146 and as further described in this paragraph.

- a. The contractor shall supply certificates of calibration for all testing and monitoring equipment. The certificates of calibration shall include: type of equipment, model number, date of calibration, firm conducting calibration, and signature of individual certifying calibration.
- b. The procedures shall include methods of inspection of personal protective equipment prior to use.
- c. The procedures shall include work practices and other engineering controls designed to reduce airborne hazardous chemical exposures to a minimum.
- d. The procedures shall include specification of the design and installation of ventilation systems which shall provide adequate oxygen content and provide for the dilution of paint solvent vapor, lead, and other toxic particulates within the confined space. In addition, the contractor shall include plans to evaluate the adequacy of air flow patterns.

#### Respiratory Protection Program; GA – (EC-DS).

The Contractor shall develop a comprehensive written respiratory protection program for all job sites in accordance with 29 CFR 1910.139, 29 CFR 1926.62, and Section 05.E of EM 385-1-1.

#### Airborne Sampling Plan; GA – (EC-DS).

The contractor shall develop an Airborne Sampling Plan for all job sites detailing the NIOSH Pub No. 84-100, Factory Mutual, or Underwriters Laboratories approved equipment, equipment calibration procedures, sampling methods, sampling to be performed, and analytical procedures to be used based on the type of work to be performed and anticipated toxic contaminants to be generated. The contractor shall include the name of the accredited laboratory, listed by the American Industrial Hygiene Association (AIHA), to be used to conduct the analysis of any collected air samples. In addition, the contractor shall provide the Contracting Officer with a copy of the test results from the laboratory within 5 working days of the sampling date and shall provide results from direct-reading instrumentation on the same day the samples are collected.

#### Ventilation Assessment; GA – (EC-DS).

The contractor shall develop a plan to provide ventilation assessment for all job sites as required by paragraph PAINT APPLICATION, subparagraph VENTILATION.

**Medical Surveillance Plan; GA - RE.**

The Contractor shall develop a plan to provide medical surveillance to the workforce for all job sites as required in paragraph MEDICAL STATUS and provide a statement from the examining physician indicating the name of each employee evaluated and any limitations which will preclude the employee from performing the work required. The statement shall include the date of the medical evaluation, the physician's name, signature, and telephone number. Medical records shall be maintained as required by **29 CFR 1910.20**.

**Waste Classification, Handling, and Disposal Plan; GA - RE.**

The Contractor is responsible for assuring the proper disposal of all hazardous and nonhazardous waste generated during the project. Therefore, the contractor shall develop a Waste Classification, Handling, and Disposal Plan for all job sites in accordance with the requirements of **40 CFR 261** and **40 CFR 262**. In addition, the following provisions shall be included:

- a. In the case of waste generated from abrasive blasting lead-containing paints with recyclable steel or iron abrasives, the spent abrasive shall be disposed of as a hazardous waste or shall be stabilized with proprietary blast additives regardless of the results of **40 CFR 261, App II, Mtd 1311**. Where stabilization is preferred, the contractor shall employ a proprietary blast additive during blasting operations.
- b. Hazardous waste shall be placed in closed containers and shall be shielded adequately to prevent dispersion of the waste by wind or water. Any evidence of improper storage shall be cause for immediate shutdown of the project until corrective action is taken.
- c. Nonhazardous waste shall be stored in closed containers separate from hazardous waste storage areas.
- d. All hazardous waste shall be transported by a licensed transporter in accordance with **40 CFR 263** and **49 CFR 171, Subchapter C**.
- e. All nonhazardous waste shall be transported in accordance with local regulations regarding waste transportation.
- f. In addition to the number of manifest copies required by **40 CFR 262.22**, one copy of each manifest will be supplied to the Contracting Officer prior to transportation.

**Containment Plan; GA - RE.**

Contractor shall develop a plan for containing all spent abrasive waste. The containment shall comply with the requirements of **SSPC Guide 6**.

**SD-14 Samples**

**Special Paint Formulas; GA – (EC-DS).**

Samples of special paint formulas, listed in paragraph PAINT FORMULATIONS, shall be submitted. For all vinyl-type paints submitted for laboratory testing, separate **1/2-pint** samples of ingredient raw materials shall be furnished. The ingredient samples shall be clearly identified by commercial name, trade designation, manufacturer, batch or lot number, and such other data as may be required. For all epoxy type paints submitted for laboratory testing, a list of ingredient raw materials identifying commercial name, trade designation, manufacturer, batch or lot number, and such other data as may be required shall be furnished.

### Specification and Proprietary Paints; GA – (EC-DS).

Federal, Military, Commercial Item Description, and SSPC: The Society for Protective Coatings specification paints are those formulated to meet federal, military, government and industry specifications. When the required quantity of any type is 50 gallons or less, the Contractor can submit:

- a. A certified test report showing the results of required tests made on the material and a statement that it meets all of the specification requirements.
- b. A certified test report showing the results of required tests made on a previous batch of paint produced by the same firm using the same ingredients and formulation except for minor differences necessitated by a color change and a statement that the previous batch met all of the specification requirements. A report of tests on the proposed batch showing the following properties applicable to the material specifications shall be furnished: color, gloss, drying time, opacity, viscosity, weight per gallon, and fineness of grind.
- c. A proprietary paint - When the required quantity of a particular type or color of a paint is 10 gallons or less, a proprietary, name-brand, shelf item paint of the same type and with similar properties to the material specified may be proposed without sampling. Proprietary paints are any which do not follow the formulas in paragraph PAINT FORMULATIONS or the complete specification requirements of the government or industry specifications. To receive consideration, a statement from the supplier that the paint is appropriate as to type, color, and gloss and is a premium grade of paint shall be furnished.

### Thinners; GA – (EC-DS).

Samples shall be submitted of the thinners which are those solvents used to reduce the viscosity of the paint.

### SD-18 Records

### Inspections and Operations; GA - RE.

The Contractor shall document and submit records of inspections and operations performed. Submittals shall be made on a daily basis and shall include but are not limited to:

- a. Inspections performed, including the area of the structure involved and the results of the inspection.
- b. Surface preparation operations performed, including the area of the structure involved, the mode of preparation, the kinds of solvent, abrasive, or power tools employed, and whether contract requirements were met.
- c. Thinning operations performed, including thinners used, batch numbers, and thinner/paint volume ratios.
- d. Application operations performed, including the area of the structure involved, mode of application employed, ambient temperature, substrate temperature, dew point, relative humidity, type of paint with batch numbers, elapsed time between surface preparation and application, elapsed time for recoat, condition of underlying coat, number of coats applied, and if specified, measured dry film thickness or spreading rate of each new coating.

## 1.6 QUALIFICATIONS

Qualifications and experience shall comply with the following.

### 1.6.1 Certified Professional

The Contractor shall provide a person who is qualified and competent as defined in Section 01 of **EM 385-1-1**, will develop the required safety and health submittal, and will be responsible for on-site safety and health during the contract period. The person shall be a Certified Industrial Hygienist (CIH), an Industrial Hygienist (IH), or a Certified Safety Professional (CSP) with a minimum of 3 years of demonstrated experience in similar related work. The Contractor shall certify that the Certified Industrial Hygienist (CIH) holds current and valid certification from the American Board of Industrial Hygiene (ABIH), that the IH is considered board eligible by written confirmation from the ABIH, or that the CSP holds current and valid certification from the American Board of Certified Safety Professionals. The CIH, IH, or CSP may utilize other qualified and competent persons, as defined in **EM 385-1-1**, to conduct on-site safety and health activities as long as these persons have a minimum of 3 years of demonstrated experience in similar related work and are under the direct supervision of the CIH, IH, or CSP. For lead containing jobsites, the competent and qualified person shall have successfully completed an EPA or state accredited lead-based paint abatement Supervisor course specific to the work to be performed and shall possess current and valid state and/or local government certification, as required.

### 1.6.2 Certified Laboratory

The Contractor shall provide documentation which includes the name, address, and telephone number of the laboratories to be providing services. In addition, the documentation shall indicate that each laboratory is an EPA National Lead Laboratory Accreditation Program (NLLAP) accredited laboratory and that each is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT) and will document the date of current accreditation. Certification shall include accreditation for heavy metal analysis, list of experience relevant to analysis of lead in air, and a Quality Assurance and Quality Control Program.

## 1.7 SAMPLING AND TESTING

The Contractor shall allow at least 30 days for sampling and testing. Sampling may be at the jobsite or source of supply. The Contractor shall notify the Contracting Officer when the paint is available for sampling. Sampling of each batch shall be witnessed by the Contracting Officer unless otherwise specified or directed. A 1-quart sample of paint and thinner shall be submitted for each batch proposed for use. The sample shall be labeled to indicate formula or specification number and nomenclature, batch number, batch quantity, color, date made, and applicable project contract number. Testing will be performed by the Government. Costs for retesting rejected material will be deducted from payments to the Contractor at the rate of \$750.00 dollars for each sample retested.

## 1.8 SAFETY AND HEALTH PROVISIONS

Paragraph SAFETY AND HEALTH PROVISIONS supplements the requirements of **EM 385-1-1**, paragraph (1). In any conflict between Section 01 of **EM 385-1-1** and this paragraph, the provisions herein shall govern.

### 1.8.1 Abrasive Blasting

The Contractor shall comply with the requirements in Section 06.H of **EM 385-1-1**.

#### 1.8.1.1 Hoses And Nozzles

In addition to the requirements in Section 20 of **EM 385-1-1**, hoses and hose connections of a type to prevent shock from static electricity shall be used. Hose lengths shall be joined together by approved couplings of a material and type designed to prevent erosion and weakening of the couplings. The couplings and nozzle attachments shall fit on the outside of the hose and shall be designed to prevent accidental disengagement.

#### 1.8.1.2 Workers Other Than Blasters

Workers other than blasting operators working in close proximity to abrasive blasting operations shall be protected by utilizing MSHA/NIOSH-approved half-face or full-face air purifying respirators equipped with high-efficiency particulate air (HEPA) filters, eye protection meeting or exceeding ANSI Z87.1 and hearing protectors (ear plugs and/or ear muffs) providing at least 20 dBA reduction in noise level.

#### 1.8.2 Cleaning with Compressed Air

Cleaning with compressed air shall be in accordance with Section 20.B.5 of EM 385-1-1 and personnel shall be protected as specified in 29 CFR 1910.139.

#### 1.8.3 Cleaning with Solvents

##### 1.8.3.1 Ventilation

Ventilation shall be provided where required by 29 CFR 1910.146 or where the concentration of solvent vapors exceeds 10 percent of the Lower Explosive Limit (LEL). Ventilation shall be in accordance with 29 CFR 1910.94, paragraph (c)(5).

##### 1.8.3.2 Personal Protective Equipment

Personal protective equipment shall be provided where required by 29 CFR 1910.146 and in accordance with 29 CFR 1910, Subpart I.

#### 1.8.4 Pretreatment of Metals and Concrete with Acids

##### 1.8.4.1 Personal Protective Equipment

Personnel shall be protected in accordance with 29 CFR 1910, Subpart I.

##### 1.8.4.2 Emergency Equipment

In addition to the requirements of Section 05 of EM 385-1-1, the contractor shall provide an eyewash in accordance with ANSI Z358.1, paragraph (6).

#### 1.8.5 Mixing Epoxy Resin Formulations

##### 1.8.5.1 Exhaust Ventilation

Local exhaust ventilation shall be provided in the area where the curing agent and resin are mixed. This ventilation system shall be capable of providing at least 100 linear feet per minute of capture velocity measured at the point where the curing agent and resin contact during mixing.

##### 1.8.5.2 Personal Protective Equipment

Exposure of skin and eyes to epoxy resin components shall be avoided by wearing appropriate chemically resistant gloves, apron, safety goggles, and face shields meeting or exceeding the requirements of ANSI Z87.1.

##### 1.8.5.3 Medical Precautions

Individuals who have a history of sensitivity to epoxy resin systems shall be medically evaluated before any exposure can occur. Individuals who are medically evaluated as exhibiting a sensitivity to epoxy

resins shall not conduct work tasks or otherwise be exposed to such chemicals. Individuals who develop a sensitivity shall be immediately removed from further exposure and medically evaluated.

#### 1.8.5.4 Emergency Equipment

A combination unit, comprised of an eyewash and deluge shower, within close proximity to the epoxy resin mixing operation shall be provided in accordance with [ANSI Z358.1](#), paragraph (9).

#### 1.8.6 Paint Application

##### 1.8.6.1 Ventilation

When using solvent-based paint in confined spaces, ventilation shall be provided to exchange air in the space at a minimum rate of [5,000 cubic feet per minute](#) per spray gun in operation. It may be necessary to install both a mechanical supply and exhaust ventilation system to effect adequate air changes within the confined space. All air-moving devices shall be located and affixed to an opening of the confined space in a manner that assures that the airflow is not restricted or short circuited and is supplied in the proper direction. Means of egress shall not be blocked. Ventilation shall be continued after completion of painting and through the drying phase of the operation. If the ventilation system fails or the concentration of volatiles exceeds 10 percent of the LEL (except in the zone immediately adjacent to the spray nozzle), painting shall be stopped and spaces evacuated until such time that adequate ventilation is provided. An audible alarm that signals system failure shall be an integral part of the ventilation system. The effectiveness of the ventilation shall be checked by using ventilation smoke tubes and making frequent oxygen and combustible gas readings during painting operations. Exhaust ducts shall discharge clear of the working areas and away from possible sources of ignition.

##### 1.8.6.2 Explosion Proof Equipment

Electrical wiring, lights, and other equipment located in the paint spraying area shall be of the explosion proof type designed for operation in Class I, Division 1, Group D, hazardous locations as required by the [NFPA 70](#). Electrical wiring, motors, and other equipment, outside of but within [20 feet](#) of any spraying area, shall not spark and shall conform to the provisions for Class I, Division 2, Group D, hazardous locations. Electric motors used to drive exhaust fans shall not be placed inside spraying areas or ducts. Fan blades and portable air ducts shall be constructed of nonferrous materials. Motors and associated control equipment shall be properly maintained and grounded. The metallic parts of air-moving devices, spray guns, connecting tubing, and duct work shall be electrically bonded and the bonded assembly shall be grounded.

##### 1.8.6.3 Further Precautions

- a. Workers shall wear nonsparking safety shoes.
- b. Solvent drums taken into the spraying area shall be placed on nonferrous surfaces and shall be grounded. Metallic bonding shall be maintained between containers and drums when materials are being transferred.
- c. Insulation on all power and lighting cables shall be inspected to ensure that the insulation is in excellent working condition and is free of all cracks and worn spots. Cables shall be further inspected to ensure that no connections are within [50 feet](#) of the operation, that lines are not overloaded, and that they are suspended with sufficient slack to prevent undue stress or chafing.

##### 1.8.6.4 Ignition Sources

Ignition sources, to include lighted cigarettes, cigars, pipes, matches, or cigarette lighters shall be prohibited in area of solvent cleaning, paint storage, paint mixing, or paint application.

### 1.8.7 Health Protection

#### 1.8.7.1 Respirators

During all spray painting operations, spray painters shall use approved SCBA or SAR (air line) respirators, unless valid air sampling has demonstrated contaminant levels to be consistently within concentrations that are compatible with air-purifying respirator Assigned Protection Factor (APF). Persons with facial hair that interferes with the sealing surface of the facepiece to face seal or interferes with respirator valve function shall not be allowed to perform work requiring respiratory protection. Air-purifying chemical cartridge/canister half- or full-facepiece respirators that have a particulate prefilter and are suitable for the specific type(s) of gas/vapor and particulate contaminant(s) may be used for nonconfined space painting, mixing, and cleaning (using solvents). These respirators may be used provided the measured or anticipated concentration of the contaminant(s) in the breathing zone of the exposed worker does not exceed the APF for the respirator and the gas/vapor has good warning properties or the respirator assembly is equipped with a NIOSH-approved end of service life indicator for the gas(es)/vapor anticipated or encountered. Where paint contains toxic elements such as lead, cadmium, chromium, or other toxic particulates that may become airborne during painting in nonconfined spaces, air-purifying half- and full-facepiece respirators or powered air-purifying respirators equipped with appropriate gas vapor cartridges, in combination with a high-efficiency filter, or an appropriate canister incorporating a high-efficiency filter, shall be used.

#### 1.8.7.2 Protective Clothing and Equipment

All workers shall wear safety shoes or boots and appropriate gloves to protect against the chemical to be encountered, and breathable, protective, full-body covering during spray-painting applications. Where necessary for emergencies, protective equipment such as life lines, body harnesses, or other means of personnel removal shall be used during confined-space work.

### 1.9 MEDICAL STATUS

Prior to the start of work and annually thereafter, all Contractor employees working with or around paint systems, thinners, blast media, those required to wear respiratory protective equipment, and those who will be exposed to high noise levels shall be medically evaluated for the particular type of exposure they may encounter. The evaluation shall include:

- a. Audiometric testing and evaluation of employees who will work in the noise environments.
- b. Vision screening (employees who use full-facepiece respirators shall not wear contact lenses).
- c. Medical evaluation shall include, but shall not be limited to, the following:
  - (1) Medical history including, but not limited to, alcohol use, with emphasis on liver, kidney, and pulmonary systems, and sensitivity to chemicals to be used on the job.
  - (2) General physical examination with emphasis on liver, kidney, and pulmonary system.
  - (3) Determination of the employee's physical and psychological ability to wear respiratory protective equipment and to perform job-related tasks.
  - (4) Determination of baseline values of biological indices for later comparison to changes associated with exposure to paint systems and thinners or blast media, which include: liver function tests to include SGOT, SGPT, GGPT, alkaline phosphates, bilirubin, complete urinalysis, EKG (employees over age 40), blood urea nitrogen (bun), serum creatinine, pulmonary function test, FVC, and FEV, chest x-ray (if medically indicated), blood lead (for individuals where it is known there will be an exposure to materials containing lead), other criteria that may be deemed necessary by the Contractor's physician, and Physician's

statements for individual employees that medical status would permit specific task performance.

(5) For lead-based paint removal, the medical requirements of 29 CFR 1926.62 shall also be included.

## 1.10 CHANGE IN MEDICAL STATUS

Any employee whose medical status has changed negatively due to work related chemical and/or physical agent exposure while working with or around paint systems and thinners, blast media, or other chemicals shall be evaluated by a physician, and the Contractor shall obtain a physicians statement as described in paragraph MEDICAL STATUS prior to allowing the employee to return to those work tasks. The Contractor shall notify the Contracting Officer in writing of any negative changes in employee medical status and the results of the physicians reevaluation statement.

## 1.11 PAINT PACKAGING, DELIVERY, AND STORAGE

Paints shall be processed and packaged to ensure that within a period of one year from date of manufacture, they will not gel, liver, or thicken deleteriously, or form gas in the closed container. Paints, unless otherwise specified or permitted, shall be packaged in standard containers not larger than 5 gallons, with removable friction or lug-type covers. Containers for vinyl-type paints shall be lined with a coating resistant to solvents in the formulations and capable of effectively isolating the paint from contact with the metal container. Each container of paint or separately packaged component thereof shall be labeled to indicate the purchaser's order number, date of manufacture, manufacturer's batch number, quantity, color, component identification and designated name, and formula or specification number of the paint together with special labeling instructions, when specified. Paint shall be delivered to the job in unbroken containers. Paints that can be harmed by exposure to cold weather shall be stored in ventilated, heated shelters. All paints shall be stored under cover from the elements and in locations free from sparks and flames.

## PART 2 PRODUCTS

### 2.1 SPECIAL PAINT FORMULAS

Special paints shall have the composition as indicated in the formulas listed herein. Where so specified, certain components of a paint formulation shall be packaged in separate containers for mixing on the job. If not specified or otherwise prescribed, the color shall be that naturally obtained from the required pigmentation.

### 2.2 PAINT FORMULATIONS

Special paint formulas shall comply with the following:

#### 2.2.1 Formula V-766e, Vinyl-Type White (or Gray) Impacted Immersion Coating

INGREDIENTS	PERCENT BY MASS
Vinyl Resin, Type 3	5.6
Vinyl Resin, Type 4	11.6
Titanium Dioxide and (for Gray)	
Carbon Black	13.0
Diisodecyl Phthalate	2.9
Methyl Isobutyl Ketone	32.0
Toluene	34.7
Ortho-Phosphoric Acid	0.2
	_____

100.0

a. The dispersion of pigment shall be accomplished by means of pebble mills or other approved methods to produce a fineness of grind (ASTM D 1210) of not less than 7 on the Hegman scale. Grinding in steel-lined or steel-ball mills will not be permitted. No grinding aids, antissettling agents, or any other materials except those shown in the formula will be permitted. The paint shall show the proper proportions of specified materials when analyzed by chromatographic and/or spectrophotometric methods. The ortho-phosphoric acid shall be measured accurately and diluted with at least four parts of ketone to one part of acid and it shall be slowly incorporated into the finished paint with constant and thorough agitation.

b. The viscosity of the paint shall be between 60 and 90 seconds using ASTM D 1200 and a No. 4 Ford cup.

c. The white and gray paints shall be furnished in the volume ratio designated by the purchaser. The gray paint shall contain no pigments other than those specified. Enough carbon black shall be included to produce a dry paint film having a reflectance of 20-24 (ASTM E 1347). The resulting gray color will approximate Munsell color 2.5PB 5/2 identified in GM-40291.

## 2.2.5 Formula VZ-108d, Vinyl-Type Zinc-Rich Impacted Immersion Coating

INGREDIENTS	PERCENT BY WEIGHT	POUNDS	GALLONS
COMPONENT A			
Vinyl Resin, Type 3	16.6	109.2	9.65
Methyl Isobutyl Ketone	80.6	528.9	79.30
Suspending Agent E	0.7	4.6	0.28
Suspending Agent F	0.4	2.7	0.19
Methanol	0.5	3.3	0.50
Synthetic Iron Oxide (Red)	1.2	7.9	0.19
	<u>100.0</u>	<u>656.6</u>	<u>90.11</u>
COMPONENT B			
Silane B	100.0	4.1	0.47
COMPONENT C			
Zinc Dust	100.0	550.0	9.42
			<u>100.00</u> (mixed paint)

a. The iron oxide and suspending agents shall be dispersed into the vehicle (Component A) to a fineness of grind of not less than 4 on the Hegman scale (ASTM D 1210). Grinding in steel-lined containers or using steel-grinding media shall not be permitted. The sole purpose of the iron oxide pigment is to produce a contrasting color. A red iron oxide-type 3 vinyl resin vehicle paste may be used in place of dry iron oxide provided compensating adjustment are made in the additions of Type 3 resin and methyl isobutyl ketone. The finished product with zinc dust added shall produce a paint which has a red tone upon drying and a reflectance of not more than 16 (ASTM E 1347).

b. VZ-108d paint shall be supplied as a kit. Each kit shall consist of 4.5 gallons (33.1 pounds) of Component A in a 5-gallon lug closure type pail, 27.5 pounds of zinc dust (Component C) packaged in a 1-gallon plastic pail, and 3 fluid ounces of silane (Component B) packaged in a glass bottle of suitable size having a polyethylene lined cap. The bottle of silane shall be placed on the zinc dust in the 1 gallon pail. In addition to standard labeling requirements, each container of each component shall be properly identified as to component type and each container label of Component A shall carry the following: MIXING AND APPLICATION INSTRUCTIONS: WARNING - THIS PAINT WILL NOT ADHERE TO STEEL SURFACES UNLESS COMPONENT B IS ADDED. Remove the 3 ounces of bottled Component B (silane) from the Component C (zinc dust) container and add to the base paint Component A) with thorough stirring. Then sift the zinc dust into the base paint while it is being vigorously agitated with a power-driven stirrer and continue the stirring until the zinc dust has been dispersed. The mixed paint shall at some point be strained through a 30-60 mesh screen to prevent zinc dust slugs from reaching the spray gun nozzle. The paint shall be stirred continuously during application at a rate that will prevent settling. If spraying is interrupted for longer than 15 minutes, the entire length of the hose shall be whipped vigorously to redisperse the zinc. If the spraying is to be interrupted for more than 1 hour, the hose shall be emptied by blowing the paint back into the paint pot. Thinning will not normally be required when ambient temperatures are below about 80 degrees F, but when the ambient and steel temperatures are higher, methyl isoamyl ketone (MIAK) or methyl isobutyl ketone (MIBK) should be used. If paint is kept covered at all times, its pot life will be about 8 days.

## 2.3 INGREDIENTS FOR SPECIAL PAINT FORMULAS

The following ingredient materials and thinners apply only to those special paints whose formulas are shown above in detail.

### 2.3.1 Pigments and Suspending Agents

#### 2.3.1.1 Aluminum Powder

Aluminum powder shall conform to ASTM D 962, Type 1, Class B.

#### 2.3.1.2 Carbon Black

Carbon black shall conform to ASTM D 561, Type I or II.

#### 2.3.1.3 Zinc Dust

Zinc dust pigment shall conform to ASTM D 520, Type II.

#### 2.3.1.4 Iron Oxide

Iron oxide, (Dry) synthetic (red), shall conform to ASTM D 3721. In addition, the pigment shall have a maximum oil absorption of 24 and a specific gravity of 4.90 to 5.20 when tested in accordance with ASTM D 281 and ASTM D 153, Method A, respectively. When the pigment is dispersed into specified vinyl paint formulation, the paint shall have colors approximating Munsell colors 7.5R 4/8 (light color) and 7.5R 3/6 (dark color) identified in GM-40291, and shall show no evidence of incompatibility or reaction between pigment and other components after 6 months storage.

#### 2.3.1.5 Titanium Dioxide

Titanium dioxide in vinyl paint Formula V-766e shall be one of the following: Kronos 2160 or 2101, Kronos, Inc.; Ti-Pure 960, E.I. Dupont DeNemours and Co., Inc.

#### 2.3.1.6 Phthalocyanine Blue

Phthalocyanine blue pigment for epoxy zinc-rich paint shall have properties similar and equal to Peacock Blue 249-1282 manufactured by Sun Chemical Co.

#### 2.3.1.7 Suspending Agent E

Suspending Agent E shall be a light cream colored finely divided powder having a specific gravity of 2 to 2.3. It shall be an organic derivative of magnesium aluminum silicate mineral capable of minimizing the tendency of zinc dust to settle hard without increasing the viscosity of the paint appreciably. Bentone 14, produced by Rheox, Inc., has these properties.

#### 2.3.1.8 Suspending Agent F

Suspending Agent F shall be a light cream colored finely divided powder having a specific gravity of approximately 1.70. It shall be an organic derivative of a special montmorillonite. Bentone 27, produced by Rheox, Inc., has these properties.

#### 2.3.1.9 Suspending Agent M

Suspending Agent M shall be of soft translucent paste consisting of a thixotropic agent dispersed in toluene. It shall have a nonvolatile content of approximately 25 percent and a specific gravity of approximately 0.872. It shall be capable of minimizing the tendency of zinc dust to settle hard without increasing the viscosity of the paint significantly. MPA-60 (toluene), produced by Rheox, Inc., has these properties.

### 2.3.2 Resins, Plasticizer, and Catalyst

#### 2.3.2.1 Diisodecyl Phthalate

Diisodecyl Phthalate shall have a purity of not less than 99.0 percent, shall contain not more than 0.1 percent water, and shall have an acid number (ASTM D 1045) of not more than 0.10.

#### 2.3.2.3 Vinyl Resin, Type 3

Vinyl resin, Type 3, shall be a vinyl chloride-acetate copolymer of medium average molecular weight produced by a solution polymerization process and shall contain 85 to 88 percent vinyl chloride and 12 to 15 percent vinyl acetate by weight. The resin shall have film-forming properties and shall, in specified formulations, produce results equal to Vinylite resin VYHH, as manufactured by the Union Carbide Corporation.

#### 2.3.2.4 Vinyl Resin, Type 4

Vinyl resin, Type 4, shall be a copolymer of the vinyl chloride-acetate type produced by a solution polymerization process, shall contain (by weight) 1 percent interpolymers of dibasic acid, 84 to 87 percent vinyl chloride, and 12 to 15 percent vinyl acetate. The resin shall have film-forming properties and shall, in the specified formulations, produce results equal to Vinylite resin VMCH, as manufactured by the Union Carbide Corporation.

#### 2.3.2.7 Ortho-phosphoric Acid

Ortho-phosphoric acid shall be a chemically pure 85-percent grade.

### 2.3.3 Solvent and Thinners

#### 2.3.3.1 Isopropanol

Isopropyl alcohol shall conform to **ASTM D 770**.

#### 2.3.3.2 Butanol

Butanol (butyl alcohol) shall conform to **ASTM D 304**.

#### 2.3.3.3 Methanol

Methanol (methyl alcohol) shall conform to **ASTM D 1152**.

#### 2.3.3.4 Methyl Ethyl Ketone

Methyl ethyl ketone (MEK) shall conform to **ASTM D 740**.

#### 2.3.3.5 Methyl Isobutyl Ketone

Methyl isobutyl ketone (MIBK) shall conform to **ASTM D 1153**.

#### 2.3.3.6 Methyl Isoamyl Ketone

Methyl isoamyl ketone (MIAK) shall conform to **ASTM D 2917**.

#### 2.3.3.7 Methyl n-Amyl Ketone

Methyl n-amyl ketone (MAK) shall conform to **ASTM D 4360**.

#### 2.3.3.8 Toluene

Toluene shall conform to **ASTM D 841**.

#### 2.3.3.9 Xylene

Xylene shall conform to **ASTM D 843**.

#### 2.3.3.10 Alc-50

Alc-50 shall consist of 50 percent methyl n-amyl ketone and 50 percent butanol by volume.

### 2.3.4 Silane B

Silane B for Formula VZ-108d shall be N-beta-(aminoethyl)-gamma-aminopropyltrimethoxy silane. Silane A-1120, produced by the Union Carbide Corporation, and Silane Z-6020, produced by Dow Chemical Company, are products of this type.

### 2.3.5 Propylene Oxide

Propylene oxide shall be a commercially pure product suitable for intended use.

## 2.4 TESTING

### 2.4.1 Chromatographic Analysis

Solvents in vinyl and epoxy paints and thinners shall be subject to analysis by programmed temperature gas chromatographic methods and/or spectrophotometric methods, employing the same techniques that give reproducible results on prepared control samples known to meet the specifications. If the solvent being analyzed is of the type consisting primarily of a single chemical compound or a mixture of two or more such solvents, interpretation of the test results shall take cognizance of the degree of purity of the individual solvents as commercially produced for the paint industry.

### 2.4.2 Vinyl Paints

Vinyl paints shall be subject to the following adhesion test. When V-766 or V-106 formulations are tested, 5 to 7 mils (dry) shall be spray applied to mild steel panels. The steel panels shall be essentially free of oil or other contaminants that may interfere with coating adhesion. The test panels shall be dry blast cleaned to a White Metal grade which shall be in compliance with SSPC SP 5. The surface shall have an angular profile of 2.0 to 2.5 mils as measured by ASTM D 4417, Method C. When V-102 or V-103 formulations are tested, they shall be spray applied over 1.5 to 2.5 mils (dry) of V-766 or V-106 known to pass this test. When VZ-108 is tested, the coating shall be mixed in its proper proportions and then spray applied to a dry film thickness of 1.5 to 2.5 mils above the blast profile. The VZ-108 shall be top coated with a V-766 known to pass this test. In all cases, the complete system shall have a total dry film thickness of 5 to 7 mils above the blast profile. After being air dried for 2 hours at room temperature, the panel shall be dried in a vertical position for 16 hours at 120 degrees F. After cooling for 1 hour, the panel shall be immersed in tap water at 85 to 90 degrees F for 48 to 72 hours. Immediately upon removal, the panel shall be dried with soft cloth and examined for adhesion as follows: With a pocket knife or other suitable instrument, two parallel cuts at least 1 inch long shall be made 1/4 to 3/8 inch apart through the paint film to the steel surface. A third cut shall be made perpendicular to and passing through the end of the first two. With the tip of the knife blade, the film shall be loosened from the panel from the third cut between the parallel cuts for a distance of 1/8 to 1/4 inch. With the panel being held horizontally, the free end of the paint film shall be grasped between the thumb and forefinger and pulled vertically in an attempt to remove the film as a strip from between the first two cuts. The strip of paint film shall be removed at a rate of approximately 1/10 inch per second and shall be maintained in a vertical position during the process of removal. The adhesion is acceptable if the strip of paint breaks when pulled or if the strip elongates a minimum of 10 percent during its removal. Paints not intended to be self-priming shall exhibit no delamination from the primer.

## PART 3 EXECUTION

### 3.1 CLEANING AND PREPARATION OF SURFACES TO BE PAINTED

#### 3.1.1 General Requirements

Surfaces to be painted shall be cleaned before applying paint or surface treatments. Deposits of grease or oil shall be removed in accordance with SSPC SP 1, prior to mechanical cleaning. Solvent cleaning shall be accomplished with mineral spirits or other low toxicity solvents having a flashpoint above 100 degrees F. Clean cloths and clean fluids shall be used to avoid leaving a thin film of greasy residue on the surfaces being cleaned. Items not to be prepared or coated shall be protected from damage by the surface preparation methods. Machinery shall be protected against entry of blast abrasive and dust into working parts. Cleaning and painting shall be so programmed that dust or other contaminants from the cleaning process do not fall on wet, newly painted surfaces, and surfaces not intended to be painted shall be suitably protected from the effects of cleaning and painting operations. Welding of, or in the vicinity of, previously painted surfaces shall be conducted in a manner to prevent weld spatter from striking the paint and to otherwise reduce coating damage to a minimum; paint damaged by welding operations shall be restored to original condition. Surfaces to be painted that will

be inaccessible after construction, erection, or installation operations are completed shall be painted before they become inaccessible.

### 3.1.2 Ferrous Surfaces Subject to Normal Exposure (NOT USED)

### 3.1.3 Ferrous Surfaces Subject to Severe Exposure

Ferrous surfaces subject to extended periods of immersion or as otherwise required shall be dry blast-cleaned to **SSPC SP 5 (with a relaxation in local areas to SSPC SP 10)**. The blast profile, unless otherwise specified, shall be **1.5 to 2.5 mils** as measured by **ASTM D 4417**, Method C. Appropriate abrasive blast media shall be used to produce the desired surface profile and to give an angular anchor tooth pattern. If recycled blast media is used, an appropriate particle size distribution shall be maintained so that the specified profile is consistently obtained. Steel shot or other abrasives that do not produce an angular profile shall not be used. Weld spatter not dislodged by blasting shall be removed with impact or grinding tools and the areas reblasted prior to painting. Surfaces shall be dry at the time of blasting. Blast cleaning to **SSPC SP 5 / SSPC SP 10** shall be done in the field and, unless otherwise specifically authorized, after final erection. Within 8 hours after cleaning, prior to the deposition of any detectable moisture, contaminants, or corrosion, all ferrous surfaces blast cleaned to **SSPC SP 5 / SSPC SP 10** shall be cleaned of dust and abrasive particles by brush, vacuum cleaner, and/or blown down with clean, dry, compressed air, and given the first coat of paint. Upon written request by the Contractor, the Contracting Officer may authorize mill or shop cleaning of assembled or partially assembled components specified to receive one of the vinyl-type paint systems or Systems Nos. 6-A-Z, 21-A-Z, and 21-B-Z employing the epoxy zinc-rich primer. The surfaces, if shop blasted, shall be shop coated with the first and second coats of the specified paint system except that the epoxy zinc-rich primed surfaces shall receive an extra single spray coat of the zinc primer at the time field painting is started, as specified in the paint system instructions. The shop coating shall be maintained in good condition by cleaning and touching up of areas damaged during the construction period. If pinpoint or general rusting appears, surfaces shall be reblasted and repainted at no added cost to the Government. Prior to the field application of subsequent coats, soiled areas of the shop coating shall be thoroughly cleaned and all welds or other unpainted or damaged areas shall be cleaned and coated in a manner to make them equivalent to adjacent, undamaged paint surfaces.

## 3.2 PAINT APPLICATION

### 3.2.1 General

The finished coating shall be free from holidays, pinholes, bubbles, runs, drops, ridges, waves, laps, excessive or unsightly brush marks, and variations in color, texture, and gloss. Application of initial or subsequent coatings shall not commence until the Contracting Officer has verified that atmospheric conditions and the surfaces to be coated are satisfactory. Each paint coat shall be applied in a manner that will produce an even, continuous film of uniform thickness. Edges, corners, crevices, seams, joints, welds, rivets, corrosion pits, and other surface irregularities shall receive special attention to ensure that they receive an adequate thickness of paint. Spray equipment shall be equipped with traps and separators and where appropriate, mechanical agitators, pressure gauges, pressure regulators, and screens or filters. Air caps, nozzles, and needles shall be as recommended by the spray equipment manufacturer for the material being applied. Airless-type spray equipment may be used only on broad, flat, or otherwise simply configured surfaces, except that it may be employed for general painting if the spray gun is equipped with dual or adjustable tips of proper types and orifice sizes. Airless-type equipment shall not be used for the application of vinyl paints.

### 3.2.2 Mixing and Thinning

Paints shall be thoroughly mixed, strained where necessary, and kept at a uniform composition and consistency during application. Paste or dry-powder pigments specified to be added at the time of use shall, with the aid of powered stirrers, be incorporated into the vehicle or base paint in a manner that

will produce a smooth, homogeneous mixture free of lumps and dry particles. Where necessary to suit conditions of the surface temperature, weather, and method of application, the paint may be thinned immediately prior to use. Thinning shall generally be limited to the addition of not more than **1 pint per gallon** of the proper thinner; this general limitation shall not apply when more specific thinning instructions are provided. Paint that has been stored at low temperature, shall be brought up to at least **70 degrees F** before being mixed and thinned, and its temperature in the spray tank or other working container shall not fall below **60 degrees F** during the application. Paint that has deteriorated in any manner to a degree that it cannot be restored to essentially its original condition by customary field-mixing methods shall not be used and shall be removed from the project site. Paint and thinner that is more than 1 year old shall be resampled and resubmitted for testing to determine its suitability for application.

### 3.2.3 Atmospheric and Surface Conditions

Paint shall be applied only to surfaces that are above the dew point temperature and that are completely free of moisture as determined by sight and touch. Paint shall not be applied to surfaces upon which there is detectable frost or ice. Except as otherwise specified, the temperature of the surfaces to be painted and of air in contact therewith shall be not less than **45 degrees F** during paint application nor shall paint be applied if the surfaces can be expected to drop to **32 degrees F** or lower before the film has dried to a reasonably firm condition. During periods of inclement weather, painting may be continued by enclosing the surfaces and applying artificial heat, provided the minimum temperatures and surface dryness requirements prescribed previously are maintained. Paint shall not be applied to surfaces heated by direct sunlight or other sources to temperatures that will cause detrimental blistering, pinholing, or porosity of the film.

### 3.2.4 Time Between Surface Preparation and Painting

Surfaces that have been cleaned and/or otherwise prepared for painting shall be primed as soon as practicable after such preparation has been completed but, in any event, prior to any deterioration of the prepared surface.

### 3.2.5 Method of Paint Application

Unless otherwise specified, paint shall be applied by brush or spray to ferrous and nonferrous metal surfaces. Special attention shall be directed toward ensuring adequate coverage of edges, corners, crevices, pits, rivets, bolts, welds, and similar surface irregularities. Other methods of application to metal surfaces shall be subject to the specific approval of the Contracting Officer. Paint on plaster, concrete, or other nonmetallic surfaces shall be applied by brush, roller, and/or spray.

### 3.2.6 Coverage and Film Thickness

Film thickness or spreading rates shall be as specified hereinafter. Where no spreading rate is specified, the paint shall be applied at a rate normal for the type of material being used. In any event, the combined coats of a specified paint system shall completely hide base surface and the finish coats shall completely hide undercoats of dissimilar color.

#### 3.2.6.1 Measurement on Ferrous Metal

Where dry film thickness requirements are specified for coatings on ferrous surfaces, measurements shall be made with one of the thickness gages listed below. They shall be calibrated and used in accordance with **ASTM D 1186**. They shall be calibrated using plastic shims with metal practically identical in composition and surface preparation to that being coated, and of substantially the same thickness (except that for measurements on metal thicker than **1/4 inch**, the instrument may be calibrated on metal with a minimum thickness of **1/4 inch**). Frequency of measurements shall be as recommended for field measurements by **ASTM D 1186** and reported as the mean for each spot

determination. The instruments shall be calibrated or calibration verified prior to, during, and after each use. Authorized thickness gages:

- a. Mikrotest, Elektro-Physik, Inc.
- b. Inspector Gage, Elcometer Instruments, Ltd.
- c. Positest, Defelsko Corporation
- d. Minitector, Elcometer Instruments, Ltd.
- e. Positector 2000, Defelsko Corporation

### 3.2.6.2 Measurements on Nonferrous Metal

Where dry film thickness requirements are specified for coatings applied to nonferrous metal surfaces, measurements shall be made with one of the thickness gages listed. They shall be calibrated and used in accordance with [ASTM D 1400](#). Calibration shall be on metal identical in composition and surface preparation to that being coated and of substantially the same thickness (except that for measurements on metal thicker than  $\frac{1}{4}$  inch, the instrument may be calibrated on metal with a minimum thickness of  $\frac{1}{4}$  inch). Frequency of measurements shall be as recommended for field measurements by [ASTM D 1400](#) and reported as the mean for each spot determination. The instruments shall be calibrated or calibration verified prior to, during, and after each use. Authorized thickness gages:

- a. Positector 3000 (aluminum and copper only)
- b. Defelsko Corporation Minitector Model 250N, 150N, or 150FN, Elcometer Instruments, Ltd.

### 3.2.7 Progress of Painting Work

Where field painting on any type of surface has commenced, the complete painting operation, including priming and finishing coats, on that portion of the work shall be completed as soon as practicable, without prolonged delays. Sufficient time shall elapse between successive coats to permit them to dry properly for recoating, and this period shall be modified as necessary to suit adverse weather conditions. Paint shall be considered dry for recoating when it feels firm, does not deform or feel sticky under moderate pressure of the finger, and the application of another coat of paint does not cause film irregularities such as lifting or loss of adhesion of the undercoat. All coats of all painted surfaces shall be unscarred and completely integral at the time of application of succeeding coats. At the time of application of each successive coat, undercoats shall be cleaned of dust, grease, overspray, or foreign matter by means of airblast, solvent cleaning, or other suitable means. Cement and mortar deposits on painted steel surfaces, not satisfactorily removed by ordinary cleaning methods, shall be brush-off blast cleaned and completely repainted as required. Undercoats of high gloss shall, if necessary for establishment of good adhesion, be scuff sanded, solvent wiped, or otherwise treated prior to application of a succeeding coat. Field coats on metal shall be applied after erection except as otherwise specified and except for surfaces to be painted that will become inaccessible after erection.

### 3.2.8 Contacting Surfaces

When riveted or ordinary bolted contact is to exist between surfaces of ferrous or other metal parts of substantially similar chemical composition, such surfaces will not be required to be painted, but any resulting crevices shall subsequently be filled or sealed with paint. Contacting metal surfaces formed by high-strength bolts in friction-type connections shall not be painted. Where a nonmetal surface is to be in riveted or bolted contact with a metal surface, the contacting surfaces of the metal shall be cleaned and given three coats of the specified primer. Unless otherwise specified, corrosion-resisting metal surfaces, including cladding therewith, shall not be painted.

### 3.2.9 Drying Time Prior to Immersion

Minimum drying periods after final coat prior to immersion shall be: vinyl-type paint systems at least 3 days. Minimum drying periods shall be increased twofold if the drying temperature is below 65 degrees F and/or if the immersion exposure involves considerable abrasion.

### 3.2.10 Protection of Painted Surfaces

Where shelter and/or heat are provided for painted surfaces during inclement weather, such protective measures shall be maintained until the paint film has dried and discontinuance of the measures is authorized. Items that have been painted shall not be handled, worked on, or otherwise disturbed until the paint coat is fully dry and hard. All metalwork coated in the shop or field prior to final erection shall be stored out of contact with the ground in a manner and location that will minimize the formation of water-holding pockets; soiling, contamination, and deterioration of the paint film, and damaged areas of paint on such metalwork shall be cleaned and touched up without delay. The first field coat of paint shall be applied within a reasonable period of time after the shop coat and in any event before weathering of the shop coat becomes extensive.

### 3.2.11 Vinyl Paints

#### 3.2.11.1 General

Vinyl paints shall be spray applied, except that areas inaccessible to spraying shall be brushed. All of the vinyl paints require thinning for spray application except the zinc-rich vinyl paint (Formula VZ 108d) which will normally require thinning only under certain weather conditions. Thinners for vinyl paints shall be as follows:

#### APPROXIMATE AMBIENT AIR TEMPERATURE (Degrees F)

Below 50	MEK
50 - 70	MIBK
Above 70	MIAC

The amount of thinner shall be varied to provide a wet spray and avoid deposition of particles that are semidry when they strike the surface. Vinyl paints shall not be applied when the temperature of the ambient air and receiving surfaces is less than 35 degrees F nor when the receiving surfaces are higher than 125 degrees F. Each spray coat of vinyl paint shall consist of a preliminary extra spray pass on edges, corners, interior angles, pits, seams, crevices, junctions of joining members, rivets, weld lines, and similar surface irregularities followed by an overall double spray coat. A double spray coat of vinyl-type paint shall consist of applying paint to a working area of not less than several hundred square feet in a single, half-lapped pass, followed after drying to at least a near tack-free condition by another spray pass applied at the same coverage rate and where practicable at right angles to the first. Rivets, bolts, and similar surface projections shall receive sprayed paint from every direction to ensure complete coverage of all faces. Pits, cracks, and crevices shall be filled with paint insofar as practicable, but in any event, all pit surfaces shall be thoroughly covered and all cracks and crevices shall be sealed off against the entrance of moisture. Fluid and atomization pressures shall be kept as low as practicable consistent with good spraying results. Unless otherwise specified, not more than 2.0 mils, average dry film thickness, of vinyl paint shall be applied per double spray coat. Except where otherwise indicated, an undercoat of the vinyl-type paint may receive the next coat any time after the undercoat is tack-free and firm to the touch, provided that no speedup or delay in the recoating schedule shall cause film defects such as sags, runs, air bubbles, air craters, or poor intercoat adhesion. Neither the prime coat nor any other coat shall be walked upon or be subjected to any other abrading action until it has hardened sufficiently to resist mechanical damage.

### 3.2.11.2 Vinyl Zinc-Rich Primer

Primer shall be field mixed combining components A, B, and C. Mixing shall be in accordance with label instructions. After mixing, the paint shall be kept covered at all times to avoid contamination and shall be applied within 8 days after it is mixed. When the ambient and/or steel temperature is below about 80 degrees F, the paint will not normally require thinning; however, the paint shall at all times contain sufficient volatiles (thinners) to permit it to be satisfactorily atomized and to provide a wet spray and to avoid deposition of particles that are semidry when they reach the surface. The paint shall be stirred continuously during application at a rate that will prevent the zinc dust from settling. When spraying is resumed after any interruption of longer than 15 minutes, the entire length of the material hose shall be whipped vigorously until any settled zinc is redispersed. Long periods of permitting the paint to remain stagnant in the hose shall be avoided by emptying the hoses whenever the painting operation is to be suspended for more than 1 hour. The material (paint) hoses shall be kept as short as practicable, preferably not more than 50 feet in length. Equipment used for spraying this zinc primer shall not be used for spraying other vinyl-type paints without first being thoroughly cleaned, since many of the other paints will not tolerate zinc contamination; no type of hot spray shall be used. An average dry film thickness of up to 2.5 mils may be applied in one double-spray coat. Unless specifically authorized, not more than 8 days shall elapse after application of a VZ-108d zinc-rich coat before it receives a succeeding coat.

### 3.2.11.3 Vinyl Paints

Vinyl Paints (Formulas V-102e, V-103c, V-106d, and V-766e) are ready-mixed paints designed to be spray applied over a wide range of ambient temperatures by field thinning with the proper type and amount of thinner. For spray application, they shall be thinned as necessary up to approximately 25 percent 1 quart per gallon of base paint) with the appropriate thinner; when ambient and steel temperatures are above normal, up to 40-percent thinning may be necessary for satisfactory application.

## 3.3 PAINT SYSTEMS APPLICATION

The required paint systems and the surfaces to which they shall be applied are shown in this paragraph, and/or in the drawings. Supplementary information follows.

### 3.3.1 NOT USED

### 3.3.2 Surface Preparation

The method of surface preparation and pretreatment shown in the tabulation of paint systems is for identification purposes only. Cleaning and pretreatment of surfaces prior to painting shall be accomplished in accordance with detailed requirements previously described.

### 3.3.11 System No. 5-E-Z

Paint shall be spray applied to an average minimum dry film thickness of 7.0 mils for the completed system, and the thickness at any point shall not be less than 5.5 mils. The dry film thickness of the zinc-rich primer shall be approximately 2.5 mils. The specified film thickness shall be attained in any event, and any extra coats needed to attain the specified thickness shall be applied at no additional cost to the Government. Attaining the specified film thickness by applying fewer than the prescribed number of coats or spray passes will be acceptable provided heavier applications do not cause an increase in pinholes, bubbles, blisters, or voids in the dried film and also provided that not more than 2.0 mils (dry film thickness) per double spray coat nor more than 1.0 mil per single spray pass of nonzinc paint shall be applied at one time.

### 3.3.28 Protection of Nonpainted Items and Cleanup

Walls, equipment, fixtures and all other items in the vicinity of the surfaces being painted shall be maintained free from damage by paint or painting activities. Paint spillage and painting activity damage shall be promptly repaired.

## 3.4 PAINTING SCHEDULE

### SYSTEM NO. 5-E-Z

SURFACE PREPARATION	1st COAT	2nd COAT	3rd COAT	4th COAT
Near White metal blast cleaning	Vinyl zinc- rich VZ-108d (double spray coat)	White Vinyl V-766e (double spray coat)	Gray Vinyl V-766e (double spray coat)	White Vinyl V-766e (double spray coat)



Analytical Management Laboratories, Inc.

15130 South Keeler, Olathe, Kansas 66062  
Phone: (913) 829-0101 • Fax: (913) 829-1181  
e-mail: amlab@dir.net

### Certificate of Analysis

July 26, 2000

Dan Mitchell  
US Army Corps of Engineers  
Kansas City District  
Kansas City, MO

Fax: 816-426-5949

Client Project ID : Perry Flood Gates

Lab Project Number: 1379


Dear Mr. Mitchell:

Included are the analytical results for the samples received on July 21, 1999. All analyses were prepared and analyzed within analytical holding time.

Data qualifiers are as follows:

- B = Some level of the compound was present in the method blank.
- J = Compound results are an estimated concentration.
- E = Compound present in levels greater than the instrument calibration range.

If you have any questions regarding this report, feel free to contact me at (913) 829-0101.

  
Kendal L. Lindquist, MBA  
Operations Manager



Analytical Management Laboratories, Inc.

15130 South Keeler, Olathe, Kansas 66062  
Phone: (913) 829-0101 • Fax: (913) 829-1181  
e-mail: amlab@idrr.net

# Certificate of Analysis

US Army Corps of Engineers

Client Project ID: Perry Flood Gates

Lab Project Number: 1379

Client Sample ID: Tar-1  
Lab Sample ID: 137901  
Date Collected: 07/20/00  
Date Received: 07/21/00

RCRA8 Metals				Reporting			Date	
Analyte	Results	Units	Limit	Analyst	Analyzed	Method		
Arsenic	15.7	mg/kg	1.58	JP	07/26/00	7000		
Barium	500J	mg/kg	9.4	JP	07/26/00	6010B		
Cadmium	70.9	mg/kg	11.3	JP	07/26/00	6010B		
Chromium	ND	mg/kg	18.9	JP	07/26/00	6010B		
Lead	3000	mg/kg	378	JP	07/26/00	6010B		
Mercury	ND	mg/kg	0.02	JP	07/26/00	7471		
Selenium	0.43	mg/kg	0.39	JP	07/26/00	7000		
Silver	ND	mg/kg	37.8	JP	07/26/00	6010B		

TCLP Metals				Reporting		Action		Date	
Analyte	Results	Units	Limit	Level	Analyst	Analyzed	Method		
Arsenic	ND	mg/L	0.40	5.0	JP	07/25/00	1311/6010B		
Barium	3.32	mg/L	0.80	100	JP	07/25/00	1311/6010B		
Cadmium	ND	mg/L	0.02	1.0	JP	07/25/00	1311/6010B		
Chromium	0.036J	mg/L	0.04	5.0	JP	07/25/00	1311/6010B		
Lead	ND	mg/L	0.40	5.0	JP	07/25/00	1311/6010B		
Mercury	ND	mg/L	0.02	0.2	JP	07/25/00	1311/7471		
Selenium	ND	mg/L	0.40	1.0	JP	07/25/00	1311/6010B		
Silver	ND	mg/L	0.04	5.0	JP	07/25/00	1311/6010B		

Client Sample ID: Vinyl-1  
Lab Sample ID: 137902  
Date Collected: 07/20/00  
Date Received: 07/21/00

RCRA8 Metals				Reporting			Date	
Analyte	Results	Units	Limit	Analyst	Analyzed	Method		
Arsenic	0.26J	mg/kg	0.39	JP	07/26/00	6010B		
Barium	24.2J	mg/kg	317	JP	07/26/00	6010B		
Cadmium	14.2	mg/kg	7.9	JP	07/26/00	6010B		
Chromium	ND	mg/kg	15.8	JP	07/26/00	6010B		
Lead	531	mg/kg	158	JP	07/26/00	6010B		
Mercury	ND	mg/kg	0.02	JP	07/26/00	7471		
Selenium	0.08J	mg/kg	0.39	JP	07/26/00	6010B		
Silver	ND	mg/kg	15.8	JP	07/26/00	6010B		

TCLP Metals				Reporting		Action		Date	
Analyte	Results	Units	Limit	Level	Analyst	Analyzed	Method		
Arsenic	ND	mg/L	0.40	5.0	JP	07/25/00	1311/6010B		
Barium	2.01	mg/L	0.80	100	JP	07/25/00	1311/6010B		
Cadmium	ND	mg/L	0.02	1.0	JP	07/25/00	1311/6010B		
Chromium	ND	mg/L	0.04	5.0	JP	07/25/00	1311/6010B		
Lead	ND	mg/L	0.40	5.0	JP	07/25/00	1311/6010B		
Mercury	ND	mg/L	0.02	0.2	JP	07/25/00	1311/7471		
Selenium	ND	mg/L	0.40	1.0	JP	07/25/00	1311/6010B		
Silver	ND	mg/L	0.04	5.0	JP	07/25/00	1311/6010B		

CHAIN OF CUSTODY RECORD

PROJECT NO.		PROJECT NAME		NO. OF CONTAINERS		REMARKS	
1371579		PERRY LAKE FLOOD GATES					
SAMPLES: (Signature)		(Signature)					
Lot No.	DATE	TIME	COMP	GRAB	STATION LOCATION		
1371579	7-20	-	-	X	TAR-1	PCEA 8-METALS	
1371579	7-20	-	-	X	VINYL-1	PCEA 8-METALS	
						* QUICK-TURN	
						* FAX INITIAL RESULTS	
						(816) 426-5949 c/o	
						DAN MITCHELL	
						WRE: (816) 983-3911	
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Date / Time	
(Signature)		7-21-00 1415		(Signature)			
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Date / Time	
(Signature)				(Signature)			
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time	
(Signature)				(Signature)			
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Date / Time	
(Signature)				(Signature)			
Remarks							

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